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ABSTRACT

A comprehensive guide for health procedures in small and large school systems, this volume emphasizes the need for coordination of school efforts with those of parents, departments of health, private practitioners of medicine and dentistry, and community health agencies. Particular attention is given to the role of the teacher in school health services. This reference volume focuses on the school health services aspect of school health education, the procedures carried out by physicians, nurses, dentists, teachers, and others to appraise, protect, and promote the health of students and school personnel. Such procedures are designed; (1) to ascertain the health status of pupils and school personnel; (2) to counsel pupils, teachers, parents, and others to arrange needed treatment or school programs; (3) to help prevent communicable diseases; (4) to provide emergency care for injury or sudden illness; (5) to promote optimum sanitary conditions and to provide proper sanitary facilities; and (6) to protect and promote the health of school personnel. (Author/NMF)

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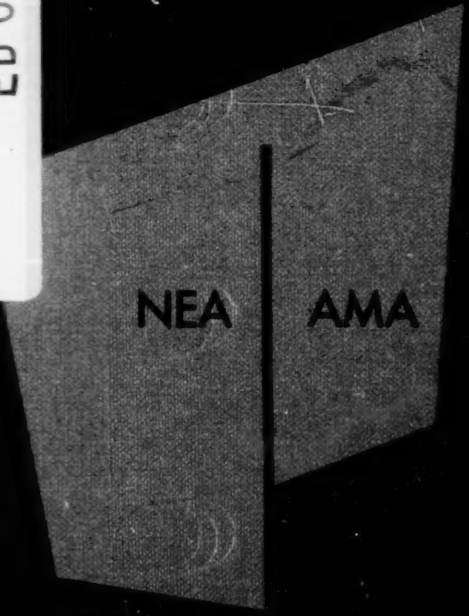

School Health Services

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School Health Services

School Health Services

publication of

The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association and prepared with the assistance of numerous contributors and consultants

editor

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second edition

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and the
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Preface

SCHOOL HEALTH SERVICES (Second Edition, 1964), a comprehensive guide for health procedures in small and large school systems, was prepared by the Joint Committee on Health Problems in Education of the National Education Association and American Medical Association with the expectation that its functional organization and specific recommendations would make it useful to all concerned with school health activities. The second edition brings up to date the compendium of information on this subject first presented in the earlier edition in 1953. SCHOOL HEALTH SERVICES is designed as a reference for teachers and school administrators, for physicians and nurses, and for others concerned with any aspect of the school health program. It is an appropriate text for institutions preparing teachers, physicians, and public health personnel. SCHOOL HEALTH SERVICES is a companion volume to *Health Education* and *Healthful School Living*, other publications of the Joint Committee.

SCHOOL HEALTH SERVICES describes the health responsibilities of schools and emphasizes the need for coordination of school efforts with those of parents, departments of health, private practitioners of medicine and dentistry, and community health agencies. Particular attention is given to the role of the teacher in school health services and to the desirability of utilizing service activities for health education purposes.

The Editorial Committee outlined the scope and contents of this book and, with the assistance of the Editor, selected contributors and consultants. Each contributor prepared basic material for a chapter, which was then reviewed by selected consultants and members of the Joint Committee. Suggestions received were incorporated into revised drafts. The final manuscript was reviewed by members of the Joint Committee. As a result, physicians, nurses, educators, and others concerned with school health activities have shared in its preparation, making it a consensus of professional leaders in education, medicine, and public health. The names of contributors and consultants are listed on pages vii and viii. Our sincere thanks go to each of them for their generous help in the preparation of this publication.

Charles C. Wilson, M.D., a former member and chairman of the Joint Committee, served as Editor for this publication, as he did for the previous edition. Dr. Wilson reviewed and edited all chapters, incorporated suggested changes, and then welded the materials into a manuscript in which harmony of style is combined with scientific accuracy. The Committee expresses its deep appreciation of the valuable services rendered by Dr. Wilson.

The Committee received considerable help from publications prepared by state and local departments of education and health. Statements from these publications are quoted in various chapters with credit given to their sources.

We are indebted also to many agencies and organizations for illustrations and charts. In each instance an appropriate credit line is included.

School health services have changed markedly since their beginnings in the early years of this century. Especially significant has been an increased understanding of the interprofessional nature of school health efforts. This has led to more effective cooperation between official agencies and increased attention to coordination with the work of private practitioners. The Joint Committee has been instrumental in promoting this understanding. However, without the support of its parent bodies, the National Education Associaion and the American Medical Association, the Committee could not have functioned. To these two Associations, therefore, we express appreciation for the opportunity of preparing this publication and offering it as a guide to improved services for children and youth.

Sara Louise Smith, Ed.D., *Chairman*, 1961-62

Granville W. Larimore, M.D., *Chairman*, 1962-63

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The time, effort, and professional abilities of many persons aided significantly in the development and completion of SCHOOL HEALTH SERVICES. Contributors provided material for specific chapters based on their special competence and experience. Consultants critically reviewed one or more chapters and offered numerous suggestions of great value. Although the Joint Committee assumes full responsibility for all statements in this publication, it gratefully acknowledges constructive assistance from each of the following individuals.

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Chapter 1

An Overview of School Health Services

On the shoulders of 40 million children and youth now attending elementary and secondary schools throughout the country rests the future of the United States. Within a few short years they will be our farmers and teachers, factory workers and professional advisors, businessmen and salespeople. They will also be the homemakers and the parents of a new generation of children. From present-day schools they are destined to graduate into an army of citizens that will grapple with personal, family, economic, social, and political problems.

How well they will meet their new opportunities and responsibilities will be answered in the years ahead. But it is now that adults can devise ways to assist children and youth to achieve the greatest possible degree of health, thus helping them to develop the foundations for happy, useful lives. To assure that each one will gradually assume increased responsibility for his own health and that of his family and community is not an easy task, but protecting and improving health may be appealing, challenging, and satisfying.

This book, dealing with ways in which school health services may be organized and conducted to assure optimum benefits to each pupil, stems from the mutual interest in such programs of two national professional groups, the National Education Association and the American Medical Association. It is presented with the hope that it will assist educators, physicians, nurses, public health personnel, and other individuals and groups in their efforts to improve health services in small and large schools, in rural and urban communities.

School health programs are not new in this country or other countries. Nevertheless, the various parts of such programs need to be defined and described and the relationship of school health services to other health activities needs to be delineated. A description of procedures commonly included in school health services will clarify the scope of this part of the total school health program.

National Education Association

PARTS OF A SCHOOL HEALTH PROGRAM

A school health program includes numerous activities in which many different persons participate. For convenience, the program is commonly divided into three interrelated parts. One part is labeled *health education;* and the other parts, *healthful school living* and *school health services.* Each of the three parts is important; each makes a unique contribution to a total program.

Some Definitions

Communication is facilitated by the use of precise terms, the meanings of which are clear to all individuals concerned. Since frequent references will be made in this book to health education, healthful school living, and school health services, the reader will want to know how these terms are defined and interpreted. Such information will help to clarify the content of each of the three divisions of a school health program.

School health education is the process of providing learning experiences which favorably influence understandings, attitudes, and conduct relating to individual and community health. Planned and conducted by teachers, with consultation from physicians, dentists, and other health personnel, school health education is an integral part of the curriculums of elementary and secondary schools. Health education helps children and youth learn how to live healthfully, provides them with knowledge and understandings useful in solving individual and group health problems, and instills in them a sense of personal health responsibility. Pupils gain understanding of the structure and function of the human body and of the numerous and varied factors that affect health. School health education deals with such broad areas as nutrition; safety and first aid; human growth; disease prevention; dental health; mental and emotional health; care of the body; community health; alcohol, tobacco, and narcotics; exercise, rest, and physical fitness; consumer education; home and family health; and health careers.

Healthful school living is a phrase that embraces all efforts to provide at school physical, emotional, and social conditions which are beneficial to the health and safety of pupils. It includes the provision of a safe and healthful physical environment, the organization of a healthful school day, and the establishment of interpersonal relationships favorable to mental health.

School health services are the procedures carried out by physicians, nurses, dentists, teachers, and others to appraise, protect, and promote the health of students and school personnel. Such procedures are designed (a) to appraise the health status of pupils and school personnel; (b) to counsel pupils, teachers, parents, and others for the purpose of helping pupils obtain needed treatment or for arranging school programs in keeping with their abilities; (c) to help prevent communicable diseases; (d) to provide emergency care for injury or sudden sickness; (e) to promote optimum sanitary conditions and to provide proper sanitary facilities; and (f) to protect and promote the health of school personnel.

Definitions of phrases and terms used in describing school health programs are contained in other publications.[1] In some instances they may differ slightly in wording from definitions given here. In general, however, there is basic agreement on the concept of a total school health program and its three major aspects.

Focus of This Book

Division of a school health program into the three parts described above is artificial since each aspect is a part of the whole and each contributes to the other parts. However, different terms for each part of the program serve as convenient labels for focusing attention at times on one facet and at times on another. In actual practice the various parts merge: school health services contribute to health education and healthful school living; healthful school living becomes possible when school health services provide a healthful environment; health education encourages healthful living and utilizes school health services for educational purposes.

Whereas other books of the Joint Committee deal with health education[2] and healthful school living,[3] this volume focuses specifically on school health services. Despite this special emphasis, the reader will find numerous illustrations of ways in which health services contribute to other parts of a school health program.

---

[1] American Association for Health, Physical Education, and Recreation. *Teamwork in School Health.* Report of the National Conference on Coordination of the School Health Program. Washington, D. C.: the Association, a department of the National Education Association, 1962. 32 pp.

[2] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Health Education.* Washington, D. C. and Chicago: the Associations, 1961. 129 pp.

[3] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Healthful School Living.* Washington, D. C. and Chicago: the Associations, 1957. 323 pp.

SCOPE OF SCHOOL HEALTH SERVICES

Persons participating in any type of school health activity need to be acquainted with the health problems of children and youth. Information related to some of these problems is contained in the next chapter. The most important causes of sickness, death, and disability are listed and pertinent information about each is presented.

Whereas each subsequent chapter deals with a functional procedure of school health services, here these procedures will be listed, described, and sometimes defined, thus constituting an overview of later material.

Appraising Pupil Health

For many years schools have required or urged pupils to obtain periodic medical examinations. In recent years there has been a trend toward encouraging health appraisals rather than just health examinations. Health appraisal is the process of determining the total health status of a pupil through such means as parent, teacher, and nurse observations; screening tests; study of information concerning the pupil's past health experience; and medical and dental examinations. This concept recognizes that medical examinations include mental and emotional evaluation and that dental examinations are important in appraising pupil health. Such examinations, however, need to be supplemented by the other procedures mentioned.

Information obtained through health appraisal is used in many ways. It helps teachers to understand their pupils and to identify those who need modified programs of education. It reveals pupils who need the professional services of a physician or dentist, thus providing the basis for health counseling. Pupils' health knowledge is increased as the purposes and techniques of appraisal procedures are interpreted to them and the significance of findings are explained.

In appraising pupil health, attention is given to all aspects of health. However, the nature and significance of emotional problems and dental problems, and the various measures which may be necessary to care for them, make it desirable to devote a separate chapter to each of these subjects.

Health Counseling and Follow-Up

Health counseling is the procedure by which physicians, nurses, counselors, teachers, or others interpret to pupils or parents the nature and significance of a health problem. Counseling is best achieved through face-to-face conferences. It complements and supplements health appraisal and helps pupils and their parents formulate a plan of action which will lead to the solution of a problem. Much health counseling is done by nurses; this high priority function is one of the nurses' major contributions to school health services.

Prevention and Control of Communicable Disease

Assisting in efforts to prevent the spread of communicable diseases is an integral part of school health services. Many changes have occurred in control procedures during recent years as a result of increased knowledge of the ways by which diseases are spread and of preventive measures. Health departments, practicing physicians, teachers, nurses, and parents share responsibility for control measures.

Efforts to prevent and control communicable diseases include education of parents and pupils, encouragement of immunizations in infancy and periodically thereafter, and continuous efforts to have sick children stay at home.

Caring for Emergency Sickness or Injury

School health services include procedures for the proper and prompt emergency care of those who become injured or ill while at school. Policies need to be established which define the responsibility of school personnel for the common and frequent types of sickness and injury and also for those occurring at times of disaster. These policies should state the amount and type of care to be provided and clearly relate school responsibilities to those of parents, private physicians and dentists, and hospitals. They should be thoroughly understood by all concerned.

In many communities parents are urged to take advantage of pupil accident insurance policies which help to cover part of the cost of needed medical services following an accident.

Services Related to Environmental Sanitation

Environmental sanitation is a subject included in this book because of its relation to certain aspects of disease prevention. In rural schools particular attention should be given to providing a safe water supply and sanitary sewage disposal; in urban schools those matters are equally important, but buildings are usually connected with community water supplies and sewage systems.

Special sanitation problems exist in schools with cafeterias and kitchens and in schools with gymnasiums, locker rooms, showers, and swimming pools. Unless these are operated and maintained with careful attention to sanitation, conditions that cause the spread of disease may occur.

Maintaining schools in a sanitary condition is a means of providing a safe, pleasant, and healthful environment. Although disease prevention is a primary concern, attention is also given to factors that promote comfort and facilitate learning, including lighting, heating, ventilation, and seating.

Health Services in Physical Education and Athletics

The participation of pupils in physical education and athletics creates a need for careful health supervision and affords unusual opportunities to promote health. Because of these peculiar circumstances Chapter 13 is devoted to "Health Services in Physical Education and Athletics."

Physical education teachers, including coaches, have important responsibilities toward pupils under their supervision. They need to be familiar with general school health policies and with ways of implementing these policies in the programs they conduct.

Health of School Personnel

As industrial and commercial firms are concerned with the health of their workers, so must a board of education be concerned with the health of teachers and other school employees. Healthy personnel work more efficiently, provide better examples for youth, and aid in creating a pleasant school environment. Matters of sick leave, retirement provisions, maternity leave, periodic medical examinations, and exclusion of teachers suspected of having a communicable disease or suffering from other conditions that endanger the health and well-being of pupils are of immediate concern to those responsible for school administration.

Additional Areas

The procedures described above indicate the scope of school health services as dealt with in this book. Each procedure is discussed in considerable detail in a later chapter with suggestions of desirable goals and practical ways for achieving them. Other chapters deal with related areas, including administration, legislation, evaluation, and high lights in the history of school health services.

REASONS FOR SCHOOL HEALTH SERVICES

School health services have developed in response to many different influences. Sometimes they have resulted from leadership by physicians or a medical society or the influence of parents or other community groups. At other times they have grown from the attempts of forward-looking teachers, school administrators, and boards of education to foster school programs that reflect educators' rightful concern for the health, growth, and development of children and youth.

Basic Premises

Persons from different professions who participated in a National Conference on Coordination of the School Health Program expressed the interests and responsibilities of schools in pupil health in these words:

> The school's responsibility for health education and health promotion rests upon four principal premises:
>
> 1. The obligation of the school to aid in maintaining the pupil's optimum fitness to learn;
> 2. The obligation of the school to maintain conditions that promote healthful living while pupils are under school jurisdiction;
> 3. The obligation of the school to help assure optimum health for each individual;
> 4. The obligation of the school to enable young people to make intelligent decisions about personal, family and community health.[4]

With the above premises as guideposts, a local committee or council may prepare a statement of the reasons for school health services, including a listing of purposes and objectives. Such a statement should be developed in every community by representatives of all groups concerned with the health of children and youth and should be the starting point in developing or modifying school health services. Unless the reasons for school health services are identified and stated, there may be misunderstandings between schools and other groups in a community. Moreover, there may be undue emphasis on one aspect of a program and neglect of other important aspects.

Formulation of reasons for school health services will undoubtedly include consideration of their relationships to (a) facilitating learning, (b) encouraging pupils to obtain needed medical or dental treatment, (c) adapting school programs to individual pupil needs, (d) maintaining a healthful school environment, and (e) increasing pupils' understanding of health and health problems.

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[4] American Association for Health, Physical Education, and Recreation, *op. cit.*, p. 1.

Facilitating Learning

When a pupil's health is improved, his potential for success in the entire school program is increased. From the point of view of the individual child and youth personal health is basic to the attainment of other educational objectives. Each child and youth needs good health in order to learn efficiently and effectively.

A succinct statement of an underlying relationship between educational purposes and school health activities is contained in a recent report of the Educational Policies Commission. In this brochure it is stated that "the purpose which runs through and strengthens all other educational purposes—the common thread of education—is the development of the ability to think. This is the central purpose to which the school must be oriented if it is to accomplish either its traditional tasks or those newly accentuated by recent changes in the world."[5]

In further discussion of school purposes, the report points out:

> The school must be guided, in pursuing its central purpose or any other purposes, by certain conditions which are known to be basic to significant mental development. The school has responsibility to establish and maintain these conditions. . . . One of them is physical health. The sick or poorly nourished pupil, the pupil suffering from poor hearing or vision, is hampered in learning. An adequate physical basis for intellectual life must be assured. . . . Mental health is also of profound importance. With it the pupil can have that desire and respect for learning which promote the satisfactory development of his capacity for effective mental performance. Without it, the likelihood of such development is drastically reduced, if not rendered impossible.[6]

School health services are concerned with promoting the total health of pupils; giving appropriate attention to physical, mental, social, and emotional aspects; and recognizing the interdependence of each on the other.

Encouraging Pupils and Their Parents To Obtain Needed Care

One part of school health services is designed to obtain information about the health status of each pupil. Such information helps a teacher gain understanding of his pupils and their ability to progress in school undertakings. He will find that some are free of defects or other health problems but that the learning ability of others is decreased by such conditions as hearing impairment, emotional disturbances, vision defects, allergies, orthopedic handicaps, or speech defects.

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[5] National Education Association and American Association of School Administrators, Educational Policies Commission. *The Central Purpose of American Education.* Washington, D.C.: the Commission, 1961. p. 12.

[6] *Ibid.*, p. 15.

Modern teachers are interested in everything that influences the lives of pupils. Gone is the day when they concerned themselves exclusively with the facts that pupils memorized. Today they give attention to the physical, mental, emotional, and social development of each pupil. Such interest generates concern for pupils in need of medical or dental treatment.

Pupils and their parents are counseled regarding pupil health problems and referred to sources of treatment. In most instances this will be a private physician or dentist; in some cases it will be a community clinic, hospital, or other health agency.

Where necessary, school health personnel may help to focus the attention of community leaders upon pupils' unmet health needs and stimulate discussion of ways by which the community may use facilities for care more effectively or provide more adequate facilities. Included among the community leaders would be representatives of the professional organizations of physicians and dentists and of community health agencies.

Adapting Programs to Individual Needs

In every school the physical and mental capacities of pupils range over a wide area. Physically, some will be strong, robust, and energetic while others will be weak, anemic, and undernourished. Some will have difficulty walking because of orthopedic defects; others will have severe defects of vision and hearing. Mentally, pupils will run the gamut from the gifted to the retarded. These variations, identified by school health services and psychological testing, may necessitate modification of school programs in order that pupils may gain optimum benefits from education.

Modified programs may be of many different types, ranging from special schools for the blind and rest periods for a pupil convalescent from prolonged sickness to provision of home instruction for those unable to attend school. They will be based on pupils' abilities rather than their disabilities and will consider physical, emotional, social, and academic needs.

Pupils' participation in physical education and sports activities needs to be adapted to their physical condition and capacities. Most pupils will not be restricted in their activities, but the condition of some will require that they be limited to moderate or mild activities. School health services provide the information necessary for intelligent adaptation of physical education to pupils' health.

Maintaining a Healthful Environment

Some aspects of school health services are designed to minimize the hazards of the school environment, to help children adjust to new social situations, and to assure proper emergency attention if sickness or injury should occur.

Coming to school for the first time is a major event in the lives of all children. From the sheltered seclusion of their own homes and neighborhoods they enter a building which houses a number of other children. For many, it is their first experience in group living outside the home. They become part of a system in which competition and cooperation with others are important. The possibility of the spread of communicable diseases is great unless proper precautions are taken. Accident hazards are greater than in the shelter of the home. Appropriate measures must be taken to facilitate good social adjustment, prevent the spread of disease, and minimize accidents.

Attention to environmental sanitation is a basic need in every school. School buildings and the grounds around them should be clean, neat, and attractive. Sanitary facilities should be of approved design and maintained in good condition. The need to provide pupils with a safe, wholesome, and sanitary environment, one that is conducive to good health and good learning, is a fundamental obligation of the school.

Increasing Pupils' Understandings About Health

School health services have great potential for increasing pupils' knowledge and understanding related to health and health problems. The potential is realized as those engaged in providing services recognize their responsibilities to further the health education of pupils and keep this purpose in mind while carrying out health service procedure.

During or following screening tests and medical examinations pupils become informed of their health assets and liabilities; their health needs are interpreted to them in specific and understandable terms and improvement in health practices may be suggested.

Pupils' attitudes toward physicians, dentists, nurses, and other health personnel are influenced by their experiences with these individuals as health service activities are conducted. The alert teacher utilizes pupils' contacts with such persons to discuss the role of professional personnel in health matters. Such discussions and consideration of related topics prior to health services in which health personnel are involved help to make these procedures desirable educational experiences.

Health services vitalize health education by relating it to the actual experiences of pupils. Every accident and every case of sickness is a concern of school health services and provides unique opportunities for health education. The teacher's actions and comments as he weighs and measures pupils or participates in their vision testing arouse curiosity concerning the relationship of these activities to health and may initiate systematic study of numerous health topics or problems.

Educational influences growing out of school health services may radiate from the classroom into the homes of pupils and into the entire community. Parents become concerned with the health of children through interest aroused by school activities. Community groups, too, may be led toward consideration of health matters through interest generated by school procedures.

VIEWS ON RELATIONSHIPS

School health services are not conducted in a vacuum; they are carried on in communities in which there are many individuals and agencies with concern for the health of children and youth. Fundamental to an intelligent concept of school health services is a clear understanding of the relationships of school efforts to those of parents, practicing physicians and dentists, departments of public health, and other community agencies. Detailed discussion of this important topic occurs in subsequent chapters. A brief statement here, however, will help to clarify the role of school services and relate them to other community health efforts.

Schools and Parents

School health services supplement, but are no substitute for, the health care parents should provide for their children. Rather than relieving parents of their responsibilities, these services are designed to encourage parents to devote attention to child health, to acquaint them with health problems of which they are unaware, and to encourage them to utilize the services of their physician and dentist and community health agencies.

Schools and parents function as a team, both concerned with protecting and promoting the health of children and youth. School services recognize the primary responsibility of parents and guardians to provide home conditions conducive to physical and mental health, to secure needed medical and dental care, to encourage desirable health practices, and to see that children are decently clothed, adequately fed, and comfortably housed. Supplementing parents' activities, the school aims to assure pupils in school the same type of health supervision that loving and intelligent parents give them at home.

Practicing Physicians and Dentists

Provision of medical and dental treatment is a function of practitioners of medicine and dentistry, not that of the school. School services identify health problems and call parents' attention to conditions requiring treatment. The parent then takes the pupil to the family physician or dentist. Those unable to afford such services are referred to community agencies designated to provide treatment to the needy.

Effective school health procedures undoubtedly direct many children who otherwise might not seek such services to the offices of physicians and dentists. Many are referred for immunizations and for diagnosis and treatment of suspected conditions observed or screened by school personnel. In this way school health services enhance the private practice of medicine and dentistry. There is no competition between properly conducted school health services and the services provided by private physicians and dentists.

Throughout the country many practicing physicians and dentists, as individuals or as members of medical or dental societies, have exerted leadership in the development of school health services, often devoting considerable time and energy to attendance at meetings and conferences dealing with school health problems. An increasing number of medical societies have school health committees and appoint representatives to school health councils.

Fundamentally, school health services are educational, supervisory, protective, and preventive. In many ways they tend to strengthen established physician-patient and dentist-patient relationships and to encourage the development of such relationships where none have previously existed. A delineation of the health responsibilities of schools and practitioners of medicine would ascribe to the school the function of supervision of pupils during school hours, counseling, and teaching, and to the practitioner those of providing treatment and advancing medical care.

Schools and Health Departments

Recent years have witnessed numerous instances of coordinated efforts of schools and health departments to protect and improve the health of children and youth. This has been particularly true at the state level and has resulted in many school health service guides and manuals being prepared and sponsored jointly by state departments of education and health. Such coordination is also desirable at the local level and has been achieved in many places.

Coordination of efforts requires joint planning and a determination to utilize fully all resources of the community. Schools, naturally, can provide qualified leadership for achieving the educational goals of health services and for guiding teacher activities. On the other hand, health departments can make available their specialized personnel in epidemiology, maternal and child health, sanitation, nursing, health education, and other areas of public health.

No single pattern can be set. The degree to which one agency or the other will assume primary responsibility for any health activity depends on such factors as legislative provisions, traditional practice in the community, and personnel available. However, it is important to realize that—

> . . . although statutes, ordinances and regulations are necessary to define minimum standards for school health and although legal enforcement must occasionally follow violations in extreme cases, chief reliance for effective programs of school health services cannot rest merely on legal provisions and their enforcement. The keynotes are cooperation, leadership, and the united will to exceed all legally required minimum standards. Legal enforcement is necessary only in cases where cooperation and leadership have failed. Such cases should be and can be rare.[7]

Coordination of school and health department activities is facilitated by mutual acceptance of the interest of each group in the health of children and youth. School personnel need to recognize that a health department is concerned with all matters affecting the health of the community or any segment of the community. Health officials need to recognize that health activities are an integral part of a school program. Both departments must recognize that a complete program of school health services may involve physicians, dentists, and nurses and also teachers, psychologists, social workers, custodians, guidance counselors, bus drivers, and school lunch directors.

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[7] Council of Chief State School Officers and the Association of State and Territorial Health Officers. *Responsibilities of State Departments of Education and Health for School Health Services.* Revised edition. Washington, D. C.: the Council, 1959. p. 2.

Teamwork Is Needed

The many individuals and groups concerned with the health of children and youth make teamwork necessary if the greatest possible results are to be achieved. School health services need to be coordinated with the other parts of the school health program, with the total school program, with the work of practicing physicians and dentists, with the health efforts of parents, and with the total community health program. Obtaining and maintaining such coordination, from the point of view of the school, is primarily an administrative responsibility and will be considered more fully in a later chapter. (See Chapter 15, "Administration of School Health Services.")

Clearly defined and frequently used channels of communication are a hallmark of well-conducted school health services. There needs to be frequent communication between parents and school personnel, between the school physician and practicing physicians, and between the school and the health department.

The many parts of a complete program of school health services contain tremendous potential for improving the health of children and youth. Organized to achieve specific purposes, and in a manner to supplement health care provided by parents and treatment provided by private practitioners, and aided by the services of health department personnel, school health services perform unique functions that are appropriate in the school situation. As such programs are effectively conducted measurable progress toward a healthier America will be made.

FOR FURTHER READING

AMERICAN ACADEMY OF PEDIATRICS. "Report of Committee on School Health—School Health Policies." *Pediatrics* 24: 618-82; October 1959.

AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION. *Teamwork in School Health.* Report of the National Conference on Coordination of the School Health Program. Washington, D. C.: the Association, a department of the National Education Association, 1962. 32 pp.

AMERICAN MEDICAL ASSOCIATION, DEPARTMENT OF HEALTH EDUCATION. *Report of 7th National Conference on Physicians and Schools.* Chicago: the Association, 1959. 133 pp.

AMERICAN MEDICAL ASSOCIATION, DEPARTMENT OF HEALTH EDUCATION. *Survey Report of School Health Activities of State Medical Associations 1961.* Chicago: the Association, 1961. 35 pp.

COUNCIL OF CHIEF STATE SCHOOL OFFICERS AND ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS. *Responsibilities of State Departments of Education and Health for School Health Services.* Revised edition. Washington, D. C.: the Council, 1959. 52 pp.

NATIONAL COMMITTEE ON SCHOOL HEALTH POLICIES. *Suggested School Health Policies.* Fourth edition. Washington, D. C. and Chicago: National Education Association and American Medical Association, 1964.

NATIONAL EDUCATION ASSOCIATION AND AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS, EDUCATIONAL POLICIES COMMISSION. *The Central Purpose of American Education.* Washington, D. C.: the Commission, 1961. 21 pp.

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, PUBLIC HEALTH SERVICE. *School Health—Selected References.* Washington, D. C.: Government Printing Office, 1961. 6 pp.

WORLD HEALTH ORGANIZATION. *Report of Expert Committee on School Health Services.* New York: Columbia University Press, 1951. 36 pp.

LEADING CAUSES OF DEATH
Ages 1 – 19 Years
1911 and 1962

1911		1962	
Cause of Death	**Death Rate per 100,000**	**Cause of Death**	**Death Rate per 100,000**
Ages 1 – 4			
ALL CAUSES	1,479.1	ALL CAUSES	61.7
Communicable diseases of childhood	436.8	Accidents—all forms	15.5
Diphtheria	180.3	Pneumonia and influenza	9.3
Pneumonia and influenza	304.4	Cancer—all forms	9.0
Diarrhea and enteritis	212.5	Congenital malformations*	3.3
Tuberculosis—all forms	96.9	Diarrhea and enteritis	1.6
Accidents—all forms	95.0		
Ages 5 – 9			
ALL CAUSES	416.2	ALL CAUSES	42.9
Communicable diseases of childhood	124.5	Accidents—all forms	15.0
Diphtheria	71.6	Cancer—all forms	7.9
Accidents—all forms	51.4	Pneumonia and influenza	3.1
Tuberculosis—all forms	45.3	Congenital malformations*	2.1
Pneumonia and influenza	41.5	Diseases of heart	1.2
Organic diseases of heart	18.5		
Ages 10 – 14			
ALL CAUSES	268.0	ALL CAUSES	34.6
Tuberculosis—all forms	51.3	Accidents—all forms	14.1
Accidents—all forms	39.9	Cancer—all forms	5.7
Organic diseases of heart	28.8	Pneumonia and influenza	1.4
Communicable diseases of childhood	23.9	Congenital malformations*	1.1
Diphtheria	13.0	Nephritis and nephrosis	0.9
Typhoid Fever	20.9		
Ages 15 – 19			
ALL CAUSES	467.8	ALL CAUSES	63.3
Tuberculosis—all forms	180.8	Accidents—all forms	33.7
Accidents—all forms	49.0	Cancer—all forms	6.8
Typhoid fever	31.8	Suicide	2.6
Pneumonia and influenza	30.8	Diseases of heart	1.8
Organic diseases of heart	28.3	Congenital malformations*	1.8

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* Congenital malformations of the circulatory system only.

Chapter 2

Some Health Problems of Children and Youth

Since one purpose of school health services is to identify health problems as they occur in pupils, and then to encourage pupils to get the care they need, individuals concerned with school health services need to be familiar with the health problems of children and youth.

The health problems of young people are numerous and varied, ranging from comparatively minor conditions like simple vision defects correctable with glasses to such serious and major problems as rheumatic heart disease and tuberculosis. Rather than attempting to describe or even list the multitude of diseases and defects which may occur or exist, this chapter will present information concerning a selected group of health problems. This group includes diseases which are important causes of death, conditions that are common causes of sickness or disability, and certain other problems of particular interest to those dealing with school-age children.

A number of health problems are so important and so directly related to school health services that they are discussed in separate chapters. Such conditions include vision and hearing impairments (Chapters 4 and 5), dental disease and defect (Chapter 8), and mental health problems (Chapter 9).

IMPORTANT CAUSES OF DEATH

As judged by mortality statistics, children of school age are very fortunate; the death rate for those of school age is less than that of younger or older age groups. When deaths do occur they frequently are a result of accidents, malignant neoplasms, or disease of the heart.

Accidents—The Leading Cause of Death

Progress always means change, and progress in medicine has sharply changed the relative importance to children and youth of many health problems. Communicable diseases, which took the

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TABLE 1 THE FIVE LEADING CAUSES OF DEATH AT VARIOUS AGES, United States, 1960

Cause	Death Rate per 100,000
Ages 5–9	
All causes	49.0
1. Accidents	19.7
2. Malignant neoplasms	7.4
3. Congenital malformations	4.2
4. Influenza and pneumonia	3.2
5. Cardiovascular-renal	2.1
Ages 10–14	
All causes	44.0
1. Accidents	18.8
2. Malignant neoplasms	6.1
3. Cardiovascular-renal	3.2
4. Congenital malformations	3.0
5. Influenza and pneumonia	2.0
Ages 15–19	
All causes	92.2
1. Accidents	50.7
2. Malignant neoplasms	7.7
3. Cardiovascular-renal	6.2
4. Homicide	4.0
5. Suicide	3.6

Source:
U.S. Department of Health, Education, and Welfare, Public Health Service, National Vital Statistics Division. *Vital Statistics of the United States, 1960.*

heaviest toll of young lives in the early years of the twentieth century, are now near the bottom of the list of causes of death. Accidents head the list. Among children and young adults, accidents far outnumber all other causes of death. (See Table 1.)

Each year accidents take the lives of from 6,000 to 7,000 children between the ages of 5 and 14 years. Fatal accidents account for two-fifths of all deaths in this age range. Accidents which are nonfatal are much more numerous than fatal ones and are an important cause of disfigurement and disability.

In 1961, the death rate from accidents among children in the United States at ages 5 to 14 years was 25.3 per 100,000 for boys and 10.7 per 100,000 for girls. (See Table 2.) Within this period of life the death rate increases for boys but decreases for girls.

TABLE 2 **DEATHS AND DEATH RATES FOR ACCIDENTS BY AGE AND SEX, United States, 1961**

	5–14 Years			5–9 Years			10–14 Years		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Number	6,717	4,760	1,957	3,468	2,256	1,212	3,249	2,504	745
Rate	18.1	25.3	10.7	18.1	23.1	12.9	18.2	27.6	8.5

Source:
U.S. Department of Health, Education, and Welfare, Public Health Service, National Vital Statistics Division. *Vital Statistics of the United States, 1961.* Vol. II.

Thus the death rate for boys at ages 5 to 9 years (23.1 per 100,000) is nearly twice that for girls (12.9) at the same ages. The rate for boys rises to 27.6 per 100,000 at ages 10 to 14 years, when it is over three times that for girls (8.5). In the high school and college-age group, 15 years to 24 years, accidents, particularly motor vehicle accidents, take an even higher toll.

Types and places of accidents. Motor vehicle fatalities account for two-fifths of accidental deaths at school ages. (See Table 3.) At ages 5 to 9 years, three of every five motor vehicle deaths are the result of children being run over or hit as they play on or cross streets, highways, and driveways. At ages 10 to 14 years, only one-fourth of the motor vehicle fatalities are among pedestrians. At these ages, deaths of bicyclists in collision with motor vehicles are at their peak.

The home is the place of occurrence in 18 percent of the fatal accidents among boys and 31 percent of such accidents among girls of school age. These proportions tend to decrease as children grow older.

A substantial number of fatal accidents among school-age children occur in recreational and other outdoor places, about 24 percent for boys and approximately 11 percent for girls. The relative frequency of accidents in such places rises as children grow older and play more away from home. Only 1 percent of the fatal injuries sustained on streets or highways by children at ages 5 to 14 years do not involve a motor vehicle.

One-fifth of accidental deaths among children 5 to 14 years old are due to drowning. Boys are the more frequent victims, with the death rate from drowning for boys four times that for girls. In this age group drownings increase in relative importance among both sexes with age. Not only do the older children participate more

TABLE 3 **MORTALITY FROM ACCIDENTS AMONG SCHOOL-AGE CHILDREN ACCORDING TO PLACE AND TYPE OF ACCIDENT, United States, 1959**

Place and Type of Accident	Ages 5–14			Ages 5–9			Ages 10–14		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Annual Number									
Number of deaths	6,511	4,644	1,867	3,402	2,232	1,170	3,109	2,412	697
Death rate per 100,000	18.5	25.9	10.9	18.2	23.4	12.8	18.9	28.7	8.7
Percent Distribution by Place of Accident									
All places	100	100	100	100	100	100	100	100	100
Transport	47	45	51	49	49	49	44	41	53
Motor vehicle	42	40	47	46	45	46	38	35	47
Nontransport	53	54	49	50	50	50	56	58	46
Home	22	18	31	25	20	36	18	17	23
Farm	5	7	2	3	4	2	7	9	2
Street and highway	1	1	—[a]	1	1	—	1	1	—
Other specified (inc. recreation)	21	24	11	17	22	9	25	27	16
Unspecified	1	—	1	1	1	1	—	—	1
Percent Distribution by Type of Accident									
All types	100	100	100	100	100	100	100	100	100
Motor vehicle—total	42	40	47	46	45	46	33	35	47
Pedestrian	19	18	20	27	28	26	9	9	10
Other road vehicle	23	22	27	18	17	20	29	26	37
Railroad	1	1	—	1	1	—	1	1	1
Water transportation	2	3	2	2	2	1	3	3	2
Drowning (exc. water transportation)	18	22	10	17	21	9	20	22	13
Fire and explosion	12	7	23	16	9	27	7	4	17
Firearm	7	9	3	4	4	3	10	12	3
Falls	3	3	3	3	3	3	3	3	3
From one level to another	2	2	2	2	2	2	2	2	1
Machinery	2	3	1	1	2	—	3	3	1
Blow from falling object	1	1	1	1	2	1	1	1	1
Electric current	1	1	—	1	1	—	1	1	—
Other and unspecified	11	11	10	9	9	9	13	13	12

Source:

U.S. Department of Health, Education, and Welfare, Public Health Service, National Office of Vital Statistics. *Vital Statistics of the United States, 1959.* Washington, D. C.: Government Printing Office, 1959.

[a] Less than 0.5.

TABLE 4 **ACCIDENTAL DEATHS DIRECTLY DUE TO FOOTBALL United States, 1957-1961**

	1957	1958	1959	1960	1961	TOTAL
College—Number	0	0	3	1	6	10
Rate*	0	0	4.56	1.53	9.23	
High School—Number	13	11	7	11	10	52
Rate*	2.27	1.78	1.13	1.78	1.62	
Professional and Semipro	1	0	2	1	0	4
Sandlot	2	6	6	1	4	19
Total Number	16	17	18	14	20	85

Source:

American Football Coaches Association, Committee on Injuries and Fatalities, (Dr. Floyd R. Eastwood, Chairman).

* Rate per 100,000 estimated exposures (616,000 high school players and 65,690 college players)

often in swimming, boating, and other water sports, but they are also increasingly permitted to do so on their own.

Fires and explosions account for one-tenth of the total number of accidental deaths among children at ages 5 to 14 years. Among girls at ages 5 to 9 years this cause ranks second only to motor vehicle accidents. A considerable number of casualties are due to firearm accidents, particularly among older school-age boys. Thus, at ages 10 to 14 years, 12 percent of fatal accidents among boys result from the careless use of firearms. Although falls are an important cause of nonfatal injury among children, they account for only 3 percent of the fatal injuries.

The toll of accidental deaths also includes a wide variety of other types of mishaps, such as those involving machinery, falling objects, electric current, and railroad trains, as Table 3 shows.

Accidents in sports. Of particular interest to school personnel are injuries in competitive sports. Injuries are quite common and deaths sometimes occur. Complete figures are not available for all types of activities.

Football was directly responsible for 85 deaths in the United States during the five-year period 1957-61, according to data issued by the American Football Coaches Association. Table 4 shows the distribution of these deaths by years and level of participation. Tackling, being tackled, and blocking were responsible for more than one-half of the fatalities directly connected with the game.

Fifty-two of the 85 deaths directly associated with football were among high school players. The annual rate of fatal injury averaged about 1.7 per 100,000 for the students playing high school football, who number about 616,000. Among the 66,000 players who participated in college football, the average annual rate was 3.1 per 100,000, but in 1961 the rate was 9.23. Approximately four deaths a year occur among sandlot players, and an average of one a year among professional or semiprofessional football players. However, no data are available on the size of these groups exposed to risk.

The hazard of fatal injury in baseball is relatively small. In the professional major leagues, which include more than 400 players, there has not been a fatal injury since 1920. In the past five years, relatively few fatalities have occurred in amateur baseball, although more than 2 million boys participate in the sport annually as members of scholastic teams, the Little League, American Legion, Junior League, and similar organizations. The few fatal injuries which did occur were a result of various mishaps: several players were hit on the head with a ball while batting or running bases; one player was killed when his head hit the base as he was sliding "home"; another was struck on the head with a batted ball during practice when playing as an infielder.

Occasional fatalities also occur in other competitive sports, such as basketball, skiing, skating, and ice hockey, but there are no reliable figures either on injuries or deaths.

A publication of the National Safety Council,[1] *Accident Facts*, reports the experience of Michigan State University in student injuries in physical education and intramural activities. This information is presented in Table 5.

The location and type of 70,512 school jurisdictional accidents and 1,721 nonschool jurisdictional accidents are also reported in *Accident Facts*.[2] The data are based on an average enrollment of 3,629,000 pupils. Items relating to various sports are shown in Table 6 (page 24), a portion of a more extensive table included in the report.

The incidence and severity of injuries sustained in competitive sports can be decreased by players using proper equipment, by good instruction and supervision, and by adequate health examinations of athletes. Prompt medical attention will reduce disabilities produced by injuries and sometimes prevent death. Sports authorities have recently instituted a number of safety precautions in both amateur and professional sports. Although these measures have borne fruit, competitive sports can be made even safer than they are now.

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[1] National Safety Council. *Accident Facts*. Chicago: Published annually.

[2] *Accident Facts*, 1961 edition. p. 92.

TABLE 5 **STUDENT INJURIES IN PHYSICAL EDUCATION AND INTRAMURAL ACTIVITIES**

Physical Education Program			Intramural Activities		
	Number of Injuries*	Injury Rate†		Number of Injuries**	Injury Rate†
All Activities	286	6.0	All Activities	344	7.2
Wrestling	49	26.0	Ice hockey	33	24.5
Doubles tumbling	11	22.3	Wrestling	5	15.9
Boxing	37	18.9	Touch football	143	13.4
Paddleball & squash	24	15.3	Basketball	97	11.8
Apparatus stunts	8	11.7	Boxing	1	9.7
Individual tumbling	8	10.1	Swimming	6	8.6
Handball	34	9.9	Fencing	2	5.3
Ice skating & hockey	13	9.1	Gymnastics	1	5.1
Soccer	3	7.7	Softball	46	4.8
Weight lifting, etc.	4	6.5	Volleyball	7	2.6

Source:

National Safety Council. *Accident Facts.* 1961 edition. Chicago: the Council, 1961. p. 90.

† Injuries per 1,000 participants

* 1955-1960 ** 1956-1960

Working for solutions. The causes and the methods of controlling accidents have been receiving increased attention from an ever widening number of groups. Medical and allied professions, safety organizations, schools, police and fire departments, statisticians, manufacturing interests, national and local governmental agencies, and many voluntary associations are pooling their experience and research in an attempt to solve what has become the nation's number one public health problem in childhood and in young adulthood. The problem is complex with many variables. Types of accidents vary with age, sex, socioeconomic conditions, geography, season, and even the time of day. Emotional factors contributing to accidents are the subject of a number of intensive studies.

"Treatment" consists of all groups and interests applying the knowledge now available, while promoting research designed to provide further information.

Malignancies—Another Important Cause of Death

Malignancies are the second largest cause of death among children, claiming more lives between the ages of 5 and 19 than any other disease. The malignancies have gained in relative importance as a cause of death in childhood as communicable diseases have increasingly been brought under control. Of greater consequence

TABLE 6 | STUDENT ACCIDENTS BY LOCATION AND TYPE, BY SCHOOL GRADES

Location and Type	ALL GRADES	Kgn.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Uncl.
SCHOOL JURISDICTION	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
School plant	92.0%	82.8%	84.7%	86.9%	88.8%	90.2%	90.0%	91.6%	93.1%	94.1%	94.9%	95.8%	95.4%	95.5%	88.6%
Playrooms	2.3	2.1	1.1	1.3	2.0	1.8	2.1	2.5	3.0	2.6	3.1	2.6	2.5	2.1	1.2
Showers and dressing rooms	.9	.1	0	.2	.3	.2	.5	.3	2.0	1.5	1.7	1.1	.9	1.0	.4
Apparatus (playground)	5.6	16.8	16.2	15.6	11.1	9.9	6.3	5.4	3.4	2.3	1.3	1.8	1.1	1.0	3.7
Baseball—softball	4.6	.1	.8	1.5	3.6	5.4	8.6	8.6	5.1	5.5	4.2	4.4	4.1	3.6	1.7
Basketball	6.6	0	*	.2	.4	1.0	1.8	3.5	6.4	9.0	11.1	13.0	12.4	13.1	5.0
Circle games	.8	1.2	.7	.7	1.1	1.8	2.1	1.4	.6	.4	.3	.3	.4	.3	.3
Football	9.1	0	.1	.2	.4	1.0	1.8	3.4	5.3	8.1	13.1	18.5	24.2	28.5	5.0
Hockey	.2	0	0	0	*	*	.1	.1	.1	.1	.2	.5	.7	.5	*
Soccer and soccer type games	1.9	0	.1	.4	1.2	2.2	3.7	3.4	2.5	2.5	2.2	1.9	1.2	1.0	.9
Swimming	1.0	0	0	*	*	.2	.1	.2	.8	1.2	2.2	2.4	1.9	1.5	.7
Track and field events	2.1	.1	*	.1	.3	.4	.8	1.2	2.4	3.3	4.0	4.0	3.5	3.3	1.2
Volleyball and similar games	2.7	.1	.1	.3	.9	1.6	2.6	3.1	2.8	3.3	3.5	4.0	4.1	3.8	3.4
Other organized games	9.7	3.9	6.0	9.4	11.6	12.9	14.0	15.4	8.7	9.4	8.4	8.7	8.5	7.0	7.4
Unorganized activities	9.4	11.1	21.2	20.2	20.8	18.5	14.4	12.5	7.0	5.6	2.8	1.9	1.4	1.2	8.1
Other school plant	35.1	47.3	38.4	36.8	53.7	33.3	31.1	30.6	43.0	39.3	36.8	30.7	28.5	27.6	49.6
Special activities	.2%	.2%	.2%	*%	.1%	.2%	.3%	.3%	.1%	.1%	.2%	.2%	.2%	.4%	.2%
Going to or from school	7.8%	17.0%	15.1%	13.1%	11.1%	9.6%	9.7%	8.1%	6.8%	5.8%	4.9%	4.0%	4.4%	4.1%	11.2%

Source: Based on reports of 70,512 school jurisdiction accidents from school systems with an average enrollment of 3,629,000 and 11,721 nonschool jurisdiction accidents from school systems with an average enrollment of 1,327,000 for the school year September 1959-May 1960.

*Less than 0.05.

is the increase in the actual cancer toll, which has resulted from the long-term upward trend in the mortality rate from the disease and the rapid growth of the child population. Currently, about 4,500 cancer deaths occur annually at ages under 15, or nearly 50 percent more than a decade ago.

The death rate from cancer in childhood is highest at the preschool ages, rising gradually from infancy to a peak between ages 3 and 4. During the school ages, however, the mortality decreases. Thus, in 1957-59 the cancer death rate among white males rose from 7.8 per 100,000 under age 1 to 12.5 at ages 1 to 4, and then fell steadily to 7.0 per 100,000 at 10 to 14 years. At each of the childhood age groups the rate among boys exceeded that among girls. These excesses ranged from 8 percent at under 1 year of age to 30 percent at ages 5 to 9.[3]

Leukemia is the most common form of cancer in childhood; it is responsible for nearly half the total death toll from malignancy under age 15. The leukemia death rate is at a peak in the age group 1 to 4 and decreases during the school ages.

Cancers in children are treated by means of x-ray or radioactive substances, surgery, and various chemicals. Chemotherapy appears to offer great promise in the management of common childhood cancers. Some of the chemicals developed to date have been helpful in alleviating symptoms and prolonging the lives of children with leukemia. A large and intensive research program has been organized to discover or develop chemicals which will destroy cancer cells without harming normal cells. At the same time, fundamental research goes on at an accelerated pace to find the cause of cancer. The outlook for progress in the control of cancer in children is increasingly hopeful, but the battle is far from won.

Heart Disease in Children and Youth

Cardiovascular-renal disease is among the five leading causes of death among children from age 5 to 19. (See Table 1.) A large proportion of deaths included in this category are those due to heart disease. In young children such deaths are most often the result of congenital heart disease; in older children they often are a result of rheumatic heart disease.

Congenital heart disease. An abnormality in the development of the heart or great blood vessels before birth results in congenital cardiac defects. Such defects vary widely in severity. Some are so slight that they hardly affect a child's life and activities at all. Others are severe enough to cause death in infancy or childhood. In some, evidence of heart strain develops only as the child grows older.

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[3] *Source:*
National Vital Statistics Division, National Center for Health Statistics, Public Health Service.

Surgical correction of certain kinds of congenital defects has made and is making great advances. Depending on the degree and type of defect, some children can be completely "cured." In others, heart function can be improved sufficiently for reasonably normal living. Not every child, however, can be helped at present.

Rheumatic heart disease. Rheumatic fever is a major cause of heart disease in children. The cause of this generalized inflammatory disease has not yet been demonstrated, but it is known that an attack is triggered in susceptible children by a streptococcal infection, usually a strep sore throat. Rheumatic fever may show itself in sore, swollen joints with fever (polyarthritis); as chorea (often called St. Vitus' Dance); as an acute inflammation of the heart muscle itself (carditis); or as indefinite complaints common to many other diseases. Children between the ages of 6 and 10 are most likely to have first attacks, although the disease may occur at any age. The chief characteristic of rheumatic fever is its tendency to recur, with increased danger of heart damage with each recurrence.

Rheumatic fever and its resultant heart damage have become much less frequent since the sulfa drugs and antibiotics have made it possible to clear up and prevent recurrent streptococcal infections. Children with rheumatic fever should have close, regular medical supervision, but otherwise should be encouraged to be normally active within their limitations, if any. There seems to be a familial pattern in rheumatic fever, and the brothers and sisters of a child who has had an attack should also be under medical supervision and protected from streptococcal infections.

Recurrences of rheumatic fever have been greatly decreased through the use of the sulfonamides and penicillin. Routine use of one of these medications in susceptible children reduces the recurrence of rheumatic fever. Ordinarily children who have had diagnosed rheumatic fever are kept under prophylactic treatment by their physician until they are at least 18 years old.

Throat cultures may be used as an aid to the physician in locating both mild and severe streptococcal infections. At times health authorities may arrange for cultures to be taken from the throats of all the children in a designated group. Those whose cultures are positive for certain types of streptococci may then be referred for appropriate treatment. This procedure is gaining increased acceptance as a screening device.

OTHER CAUSES OF SICKNESS AND DISABILITY

The health problems included in the following section were selected for different reasons. Upper respiratory tract infections cause numerous and frequent absences from school. Tuberculosis, a serious chronic disease, remains an important health problem despite gratifying progress in combating it. Allergies of various types affect large numbers of young people and cause tremendous amounts of discomfort. Seizures of various types and degrees sometimes alarm teachers who are unfamiliar with their nature and causes. Nutritional problems, while less common than formerly, occur in all sections of the country and include obesity and undernourishment. These are all health problems about which school personnel should be informed.

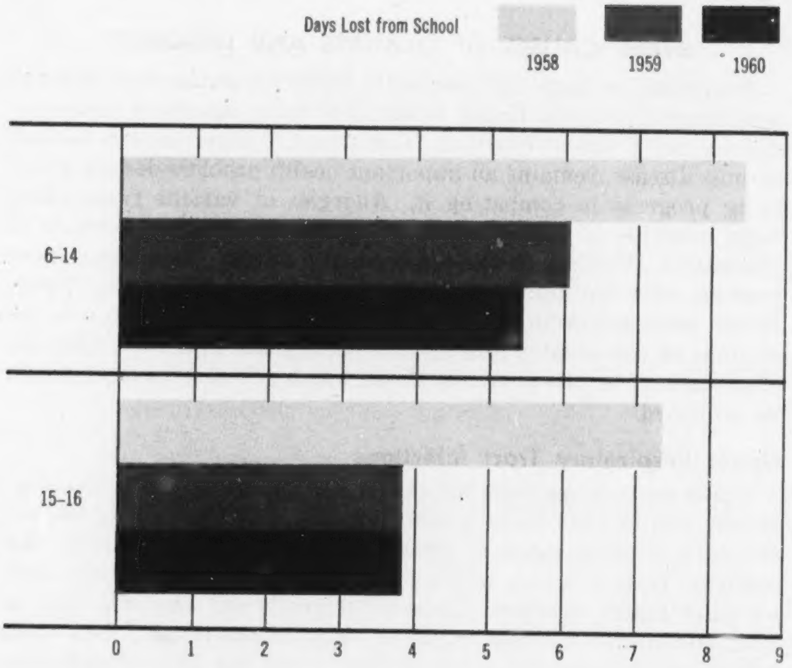
Upper Respiratory Tract Infections

Upper respiratory tract infections (infections involving the nose, throat, and larynx) include colds, tonsillitis, and laryngitis and are the most common cause of illness among children and youth. The National Health Survey of the Public Health Service collected data on child health problems for several years and reported that in 1959-60 children between 6 and 16 years of age lost 5.3 days from school, on the average, a sharp drop from the 1957-58 influenza year figure of 8.4 and a slight drop from the 1958-59 figure of 5.8. (See Table 7.) Respiratory diseases are by far the most common cause of school absence.

Many respiratory tract infections, now as in the past, involve the tonsils and adenoids. In 1945 tonsillectomies and adenectomies were described as the most frequent surgical procedures in the United States, with nearly 2 million such operations performed annually. However, the use of new drugs with certain types of respiratory infections has greatly reduced the necessity for tonsil and adenoid removal. Today physicians control infections in these organs with chemotherapy and other recently developed methods of prevention and treatment and resort to surgery only if other methods of treatment fail. The control of serious respiratory infections has resulted in a decrease in middle ear disease and mastoiditis.

Unfortunately, there are no specific immunizations that will reliably prevent colds, although research aimed at this goal is being

TABLE 7 | PUPIL ABSENCES FROM SCHOOL



Age	Both sexes			Males			Females		
	1957-58	1958-59	1959-60	1957-58	1958-59	1959-60	1957-58	1958-59	1959-60
	School-loss days per child[1]								
Ages 6–16	8.4	5.8	5.3	8.0	5.8	4.9	8.9	5.8	5.6
6–14	8.6	6.1	5.5	8.2	6.2	5.2	9.0	6.1	5.9
15–16	7.4	3.9	3.9	6.9	3.4	3.5	7.9	4.4	4.3

Source: U. S. Department of Health, Education, and Welfare, Public Health Service. Health Statistics, Series B, No. 10, Disability Days, United States, July 1957-June 1958. All statistics from the U. S. National Health Survey, authorized by Congress in 1956, are based on a continuing sample of the civilian noninstitutional population residing in the United States. Since FY 1958 the number of households covered in interviews increased from 36,000 to 38,000, and the number of persons included in the households increased from 115,000 to 125,000. Each statistic is adjusted by two stages of ratio estimation to official Bureau of the Census population figures to make the sample estimate closely representative of the population by age, sex, color, and residence, and to reduce sampling variance. [1] A school-loss day is defined as an entire day lost from school due to illness or injury. School-loss days are tabulated for all children in the age group 6-16. [2] A work-loss day is defined as an entire day lost from work due to illness or injury. This new series, beginning July 1, 1959, includes only days lost from work by persons 17 years of age or over "currently employed" (working or had a job or business during the two previous weeks).

conducted. Colds are known to be caused by many different kinds of viruses, a fact that makes difficult the preparation of an effective vaccine.

At present the best preventive procedure is avoidance of close contact with those who have colds. Personal habits of cleanliness help, including keeping the hands clean and keeping them away from the nose and mouth. Those who have colds should avoid spreading germs to others by covering the mouth and nose with disposable tissue when coughing or sneezing.

Tuberculosis—Still a Menace

Still a serious menace in the world, tuberculosis remains a potential threat even in the United States. The National Tuberculosis Association estimates that some 35 million Americans are infected and that within the next five years a quarter of a million persons in the United States will develop active tuberculosis. Older people, among whom the largest number of cases are now being found, can infect others with whom they come in contact. An example cited is the case of a school bus driver with unsuspected active tuberculosis. Of 266 children exposed, 85 were infected before his active state was discovered. The Association recommends, therefore, that regardless of known contacts, all children and young adults should have a regular tuberculin test and if the test is positive, an annual x-ray.

New drugs, especially isoniazid, often combined with para-aminosalicylic acid or with streptomycin, are now used successfully in treating tuberculosis. But some types are still resistant to treatment, and the search for a specific preventive continues. The vaccine BCG (bacillus Calmette-Guerin), discovered 50 years ago, gives some protection but is of no use to those already infected. In this country it is used primarily to protect special groups—physicians, nurses, employees in hospitals, prison inmates and workers, and children living in areas having a high incidence of tuberculosis.

Allergies in Children

Undue sensitivity to a substance constitutes an allergic condition. The response to this condition takes many forms, including hay fever and bronchial asthma. The allergies which result in these responses belong to the type which seems to run in families, apparently an inherited sensitivity. Allergy is known to be the result of an imbalance of histamine and antihistamine, with a preponderance of histamine. But why some individuals react violently to substances which have no effect on most other people is not yet understood. In that sense, we do not know the cause of allergic reactions.

Treatment, however, both palliative and preventive, is now available for a majority of sufferers. A large number of drugs (e.g., antihistamines) relieve many of the distressing symptoms resulting from allergies and in children may eventually lead to a permanent nonallergic state. On the other hand, if an allergic condition in a child is allowed to continue, the allergy will eventually become a permanent state. In such instances the child goes into adult life with a chronic allergic disease. For this reason the control of allergies in childhood is of primary importance.

Permanent care of any allergic condition is facilitated by identification of the offending irritant or allergen. In the case of common foods, the solution is to avoid eating them. In the case of hay fever or other respiratory allergies, resistance can sometimes be built up by immunization procedures. Prompt diagnosis and early treatment not only make a big difference in a child's comfort and well-being but also help to prevent complications which may be difficult to cure and which may later on seriously interfere with health, growth, and personality development.

Epilepsy

Epileptic seizures, mild or severe, are not uncommon. Estimates indicate that about 200,000 people in the United States are affected by them.

The exact cause of the brain cell damage which results in various forms of seizures is not known, although there is reason to believe that a predisposition to attacks is inherited in about 6 percent of cases. In about three-quarters of cases symptoms begin before age 12. Other influences besides predisposition which may precipitate seizures are brain damage from injury before or during birth, infections or disease elsewhere in the body, and severe head injury. Emotional tension or shock is also known to precipitate attacks. In many instances no causative factor or factors can be found (idiopathic epilepsy).

Seizures may or may not be accompanied by loss of consciousness. In the form known as "petit mal," or minor seizures, interruptions of consciousness may last from a fraction of a second to several seconds. They may occur many times a day or only when some stress is present. Such seizures may be overlooked because a child suffering from petit mal may just blink a few times or look blank for a moment before continuing his activities. Not knowing what was said or done during his blackout, the child may seem inattentive, disobedient, or stupid.

The form of seizure called "grand mal," characterized by convulsions as well as loss of consciousness, often is preceded by an "aura" which warns of its approach. The aura may consist of dizziness, apprehension, and audible intake of air, or just a queer feeling.

Grand mal or major seizures usually are of short duration, rarely lasting more than 5 or 10 minutes and frequently much less. There is no special first aid other than preventing the individual from hurting himself by falling or knocking against hard objects. However, when the individual regains consciousness he should be allowed to sleep. He may sleep heavily for an hour or two.

A number of other manifestations of epilepsy take bizarre forms and may be difficult to recognize. There may be repeated tantrums, irrational acts, nodding spasms, chewing and sucking movements, or twitching of a hand or foot. The classroom teacher can often be of great help in the solution of some of these obscure problems.

A number of drugs are used to control seizures, and therapy is constantly being improved. Many individuals become completely free of seizures under treatment, and in other instances seizures are reduced in severity and frequency.

Pupils with seizures who are free of other physical or mental handicaps can usually attend regular classes and participate in most school activities. They need to be carefully supervised if they participate in swimming classes and need to be warned to avoid climbing ropes or other apparatus.

Nutritional Problems

A well-known pediatrician has estimated that as many as 15 percent of American children may be dangerously overweight, and that four out of five of this group will grow up to be overweight adults.

Much obesity has its origin in faulty habits started in childhood. In one follow-up study extending over a period of 21 years, of 50 girls who were 20 percent or more overweight when 10 to 14 years of age, 40 were still obese as adults. Average-weight contemporary controls showed only 9 overweight 20 years later.

Many factors may contribute to obesity. An inherited tendency to stoutness must be recognized, but eating practices and exercise habits often play important roles. Only 10 percent of children from average-weight families become fat. In families with one overweight parent, 50 percent of the children are likely to grow into fat adults. Among children with two obese parents, 80 percent will be too heavy. Some cases of obesity which occur between 9 and 12 years of age can be classified as preadolescent physiologic obesity. This obesity may appear with the growth spurt of early adolescence.

Emotional disturbances are a common cause of obesity in children. Some parents, especially mothers, interpret overfeeding as a sign of affection. Others may be compensating for guilt feelings of rejection. Children themselves often associate food with comfort and may turn to overeating when unhappy or upset.

Inactivity may be as important as overeating in the development of obesity.[4] Often children tending toward overweight compound their problem by shunning exercise.

Undernourishment in children results from numerous and varied causes. Sometimes a family lacks the quantity or quality of food necessary to keep children well nourished. Such instances should be brought to the attention of social and welfare agencies so that needed foods may be provided.

In other cases food is available but boys and girls do not select those foods necessary for good nutrition. Education is the means for correcting undesirable food practices—education of both pupils and their parents.

Of particular importance is the unnecessary and undesirable dieting by many teen-age girls due to peer-group pressures based on ignorance concerning nutritional needs and false standards of what constitutes an attractive figure. They need to learn that good health and good nutrition are necessary foundations for a pleasing appearance and full living.

Modification of dietary practices cannot be accomplished overnight. Continued and sustained efforts are required, including skillful health education starting in the early school years.

Two Teen-Age Problems

Special attention is called to two problems of teen-agers and young adults which urgently need increased attention. They are problems with which schools are and should be concerned but with which many other individuals and groups have responsibilities. Neither problem can be solved easily.

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[4] Johnson, M. D.; Burke, S. B.; and Mayer, J. "Relative Importance of Inactivity and Overeating in Energy Balance of Obese High School Girls." *American Journal of Clinical Nutrition* 4: 37; 1956.

TABLE 8 **REPORTED CASES OF VENEREAL DISEASE BY AGE GROUP, United States, 1956-1960**

Age Group	1956	1957	1958	1959	1960	Percent Increase 1956-1960
Primary and Secondary Syphilis						
0–9	11	33	23	39	20	+81.8
10–14	75	80	90	90	139	+85.3
15–19	1,093	1,192	1,228	1,620	2,577	+135.8
0–19	1,179	1,305	1,341	1,749	2,736	+132.1
All ages	6,399	6,581	7,134	9,798	16,144	+152.3
Gonorrhea						
0–9	1,222	1,628	1,164	1,325	1,619	+32.5
10–14	2,425	2,363	2,706	2,601	3,261	+34.5
15–19	44,264	45,705	48,723	50,088	53,649	+21.2
0–19	47,911	47,696	52,593	54,014	58,529	+22.2
All ages	224,687	214,872	232,818	240,265	258,933	+15.2

Source:

U.S. Department of Health, Education, and Welfare, Public Health Service. *The Eradication of Syphilis*, A Task Force Report to the Surgeon General. Washington, D. C.: Government Printing Office, 1962.

Venereal disease. Of serious social, educational, and medical import is the recent increase in venereal disease among adolescents in the United States. The American Social Health Association cites a rise among teen-agers of 130 percent in reported cases from 1956-1960. Public Health Service statistics for both syphilis and gonorrhea are shown in Table 8.

There is no single cause for these disturbing increases. Factors can be found in the false security offered by effective medical therapy; in the changing social climate and present-day attitude toward sex; in the "sex sell" aimed by advertisers at the present 17 million teen-ager market, estimated to have over $9 billion to spend; in the changing role of the prostitute in our society and the increase in "amateur" promiscuity; in the widespread lack of forthright, wholesome education on sex and the venereal disease problem in homes, schools, churches, and community agencies.

Solutions to venereal disease problems depend in part on more effective case finding through routine blood tests and investigation of each case to determine the source of infection and all subsequent contacts.

Education needs to be increased. Seminars, conferences, workshops, and training courses are needed to brief physicians, nurses, teachers, social workers, and other professional persons concerning the problem and current control activities.

Community leaders need to look into and correct legal or other impediments to effective education on venereal disease in schools and by the community's youth agencies. V.D. must be recognized for what it is—a serious symptom of family and community failure to control a problem which, unlike some others, we have the knowledge and means to wipe out.

Teen-age pregnancies. Births out of wedlock are hardly new. But when the rate of such births among teen-age girls more than doubles within a 20-year period, the problem requires attention from all community agencies. Like venereal disease, the problem is a symptom of serious social ills. The Public Health Service reports that out of 209,000 illegitimate children born in 1958 two out of five were to mothers under 20 years of age. Although no figures are available for the exact number of unmarried girls who drop out of high school or college because of pregnancy, educators are justifiably concerned at the increasing incidence.

All the causes contributing to teen-age pregnancies out of wedlock are not known, but studies make it clear that the unmarried mother belongs to no one group. She may come from a rich, middle class, or poor family; she may be educated or uneducated; intelligent or dull. Faulty child-parent relationships frequently enter the picture. The family in which children can find love, understanding, and acceptance is less likely to be faced with the problem.

Crowded living conditions and poor housing undoubtedly contribute to illegitimacy. Inadequate food, clothing, and money for simple essentials place a strain on the whole family. Lack of good recreational facilities, inadequate supervision of children of working mothers, and neighborhood racial tensions are all contributing factors. Adolescents who participated in the 1960 White House Conference on Children and Youth expressed some concern also about some of today's books, magazines, and radio and television programs.

The immediate solution of the problem calls again for community services and action based on the concept of the intrinsic worth of both the mother and the child. Following two studies of unmarried mothers in New York City, the Council of Greater New York included among other recommendations the following specific suggestions for schools:

1. The broadening of family life education courses in junior and senior high schools and the provision of neighborhood parent education courses as possible channels for impressing on young girls and their parents the importance of seeking early medical care during pregnancy.
2. Assumption of school personnel of more responsibility for counseling pregnant girls and referring them to appropriate services and the modification of school policies in regard to expulsion in order to break down the girl's fear of telling the school counselor about her pregnancy.

In its 1963 meeting, the Joint Committee on Health Problems in Education of the NEA-AMA passed a resolution urging local communities to devise a plan through which unwed mothers could further their education. Too often these girls do not complete their education and too often join the ranks of the unemployed because they are unskilled.

Education is one means of helping to prevent pregnancies among unmarried teen-agers. Young adolescents need information and counseling concerning the sex aspects of life. Consideration needs to be given to the religious, social, and legal aspects of marriage; the responsibilities of families for the care of children; and similar topics. Such education should be conducted in a manner to encourage desirable attitudes and behavior. It can best be accomplished through cooperative efforts of parents, schools, churches, and youth-serving organizations.[5]

No single group or agency can deal with teen-age pregnancies or any of the other problems outlined in this chapter. More and more emphasis must be on seeking the causes and finding means to prevent the problems. When problems do occur programs to cope with them will require coordinated efforts by schools, health departments, voluntary health agencies, parent groups, and professional organizations. The services of all these groups are essential if children and youth are to be helped to meet a future more unknown than that any past generation has faced.

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[5] Booklets in the "Sex Education Series" prepared under the direction of the Joint Committee on Health Problems in Education of the National Education Association and American Medical Association are useful aids in an education program. The titles of the booklets are 1) Parents' Responsibility, 2) A Story About You, 3) Finding Yourself, 4) Approaching Adulthood, and 5) Facts Aren't Enough. Copies are available from the National Education Association, 1201 16th St., N.W., Washington, D.C., or the American Medical Association, 535 N. Dearborn St., Chicago, Illinois.

FOR FURTHER READING

AMERICAN FOUNDATION FOR ALLERGIC DISEASES, COMMITTEE ON PUBLIC EDUCATION. *Allergy—A Story of Millions.* Public Affairs Pamphlet 253. New York: Public Affairs Committee, 1957. 28 pp.

CAMERON, CHARLES S., M.D. *The Truth About Cancer.* Englewood Cliffs, N. J.: Prentice Hall, 1956. 257 pp. (See Chapter 23, "Cancer in Children.")

CROOK, WILLIAM G. *Answering Parents' Questions.* Springfield, Ill.: Thomas, 1936. 280 pp.

GALLAGHER, J. ROSWELL. *Medical Care of the Adolescent.* New York: Appleton-Century-Crofts, 1960. 369 pp.

GESELL, ARNOLD; ILG, FRANCES L.; AND AMES, LOUISE BATES. *Youth—The Years from Ten to Sixteen.* New York: Harper & Brothers, 1956. 542 pp.

HURLOCK, ELIZABETH B. *Adolescent Development.* Second edition. New York: McGraw-Hill Book Co., 1955. 590 pp.

ILG, FRANCES L., AND AMES, LOUISE BATES. *Child Behavior.* New York: Harper & Brothers, 1955. 364 pp.

MARTIN, ETHEL AUSTIN. *Roberts' Nutrition Work with Children.* Chicago: University of Chicago Press, 1954. 527 pp.

MARVIN, H. M., AND OTHERS. *You and Your Heart.* New York: New American Library, 1957. 208 pp. (Available from state and local heart associations)

NATIONAL EDUCATION ASSOCIATION AND AMERICAN MEDICAL ASSOCIATION, JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION. *Answers to Health Questions in Physical Education.* Washington, D.C. and Chicago: the Associations, 1959. 22 pp.

NATIONAL EDUCATION ASSOCIATION AND AMERICAN MEDICAL ASSOCIATION, JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION. *As Others See Us.* Washington, D.C. and Chicago: the Associations, 1959. 33 pp.

NATIONAL SAFETY COUNCIL. *Accident Facts.* Chicago: the Council. Published annually.

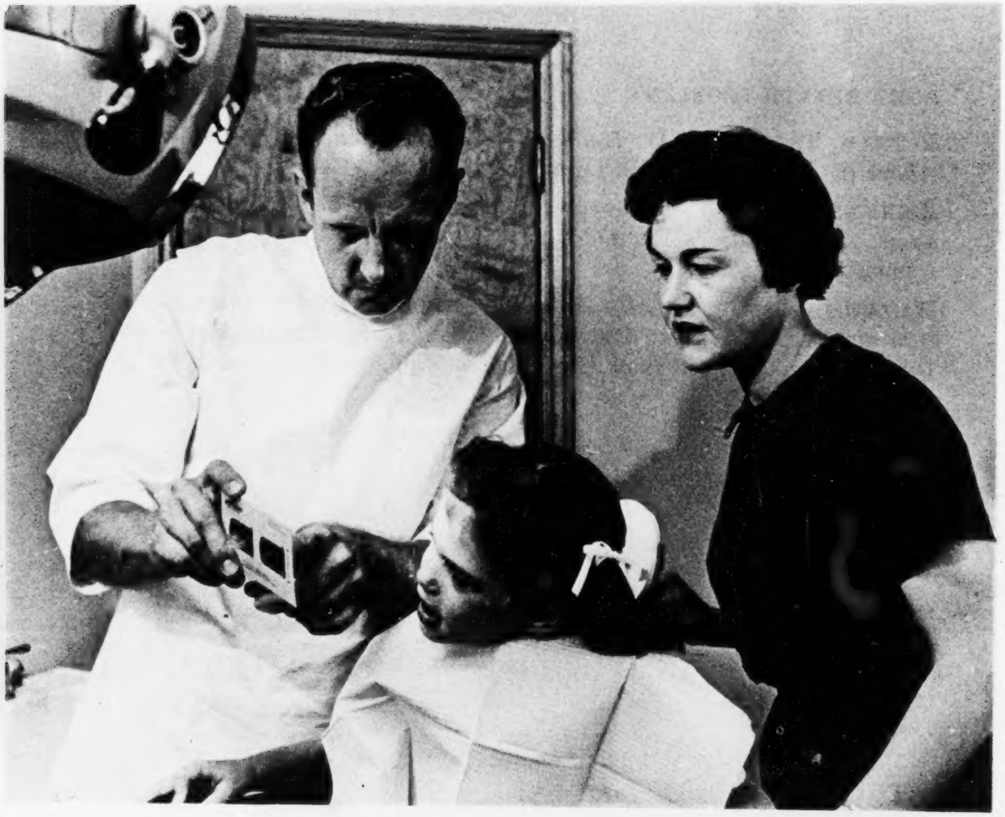
NATIONAL TUBERCULOSIS ASSOCIATION. *Facts About Tuberculosis.* New York: the Association. 16 pp. Revised annually.

NATIONAL TUBERCULOSIS ASSOCIATION. *Introduction to Respiratory Diseases.* New York: the Association. 104 pp. (See Chapter 2.)

PUTNAM, TRACY J., M.D. *Epilepsy—What It Is and What To Do About It.* New York: J. B. Lippincott Co., 1958. 190 pp.

RICHMAN, T. LEFOY. *Venereal Disease, Old Plague—New Challenge.* Public Affairs Pamphlet 292. New York: Public Affairs Committee, 1960. 20 pp.

WHEATLEY, GEORGE M., AND HALLOCK, GRACE T. *Health Observation of School Children.* 2nd edition. New York: The Blakiston Division, McGraw-Hill Book Co., 1956. 488 pp.



Chapter **3**

Appraising Pupil Health

In every school throughout the country the health of pupils is appraised in one manner or another every day of the year. Reports of casual and informal appraisal are revealed by such teacher statements as, "Fred is a fine, robust boy" or, "I wonder what is wrong with Mary. She looks tired all the time." Although such limited judgments of health have value, they are only a small part of a total health appraisal program.

Usually the term health appraisal is limited to systematic efforts that evaluate pupil health through use of (a) teacher observations, (b) screening tests, (c) health histories, and (d) medical and dental examinations. In some instances these procedures will be supplemented by psychological tests and examinations.

Certain procedures to evaluate health are required by law in some states. For example, state statutes may require that pupils' vision or hearing be tested annually or that medical examinations be required periodically. Although legal provisions must be met, they usually embody only minimum requirements. A better program results from local action based on locally determined needs and resources. Such programs can best be developed through the cooperative efforts of those directly involved.

Members of a group formulating a program to appraise pupil health are likely to have different views concerning its purposes. One may think it is concerned primarily with physical health; another that its greatest value is in relation to emotional health. The classroom teacher may consider that the program is designed to help him learn the health assets and liabilities of his pupils, whereas the physical educator considers it a means for determining pupil fitness to engage in various physical activities, and the health educator as a means of providing a valuable educational experience. The physician and dentist will rightfully focus their attention on the diagnostic aspects of appraisal procedures, while the principal may be concerned primarily with their contributions to pupil education. Actually, appraisal procedures are multipurpose in nature; they satisfy a variety of needs.

American Medical Association

The objectives of health appraisal were discussed by representatives of education, medicine, and public health at the Third National Conference on Physicians and Schools. The group agreed that evaluation of pupil health should be designed:

> (a) to serve the purposes of all good education by contributing to the maximum effectiveness of the child as an individual and a member of the community; (b) to assure the child's maximum fitness to receive an education; (c) to inform school personnel, parents, and the child regarding his health status, including the existence of impairments in need of medical, psychological, dental and social services; (d) to suggest adjustments in the school environment or instructional program, based on individual needs; and (e) to serve as a learning experience for children, teachers, and parents which will be basic to lifelong programs of healthful living.[1]

In addition to utilizing various procedures for appraising pupil health, school health personnel need to give attention to two related matters. One has to do with the development and use of cumulative health records and the other with gaining the greatest possible educational value from appraisal activities. These will be discussed following a description of procedures commonly used in appraising pupil health.

TEACHERS' OBSERVATIONS

Teachers' observations are a fundamental procedure in appraising pupil health. The first indications of many physical and emotional problems are changes in the way a pupil behaves or alteration in his color, gait, and general appearance. He may be lethargic or hyperactive. He may be pale or flushed or have a skin rash. When such changes are checked by a physician they may result in the identification of the early stage of a communicable disease, a physical defect, or an emotional disturbance.

The teacher is in a strategic position to detect variations in a pupil's appearance and in his reactions to classroom situations. Being familiar with the pupil's usual appearance and behavior, he can easily observe changes. He is also able to compare the appearance and behavior of one pupil with the appearance and behavior of others.

What the Teacher May Observe

Observation of the health of pupils reflects the teacher's sensitivity to their developmental needs. The teacher skilled in observation detects deviations from health without interference with his usual classroom responsibilities. Singling out those pupils who seem to have something wrong with their health becomes virtually an automatic process. It may begin with a quick glance accompanying a morning greeting and continue through observation of pupils as they are engaged in daily school activities. Sometimes, through such informal procedures, the teacher will pick out certain pupils to whom he will want to give more careful attention during the day or during the following days. In general, day-long alertness to pupil health has replaced the former practice of formal inspections at specified times.

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[1] American Medical Association. *Report of the Third National Conference on Physicians and Schools.* Chicago: the Association, 1951. pp. 9-10.

Secondary school pupils are passing through a particularly critical period of growth, development, and social adjustment. The observant teacher can often detect those who may be having difficulties even though he may be with one group of pupils for only a relatively short period of time.

Any significant health observations of the teacher should be recorded. Usually they will form part of a pupil's cumulative health record.

Although a teacher observes and records variations in a pupil's appearance and behavior, he is not asked or authorized to diagnose the cause, and should not attempt to do so. His function is limited to noting changes in objective terms and seeing that they are brought to the attention of a nurse or physician, if either is available, or to the attention of a parent or guardian. Determining the reason for the changes observed is the responsibility of a physician.

The range of teachers' observations is extensive and includes signs of disorder of various parts of the body as well as behavior which may be symptomatic of emotional problems. Conditions that may be noted include the following, but this list is by no means complete.

General Appearance—Very thin or obese, noticeable change in weight, unusually pale or flushed, poor posture, limp, change in gait, lethargic and unresponsive.

Eyes—Crossed eyes; inflamed or watery eyes; squinting, frowning, or scowling; holding book too close to or too far from eyes; frequent styes.

Ears—Discharge from ears, turning head to hear, failure to hear well.

Nose and Throat—Persistent mouth breathing, enlarged glands in neck, frequent colds, persistent nasal discharge, odor from nose or mouth.

Skin and Scalp—Rash on face or body, sores on face or body, numerous pimples, excessively dry or oily skin, nits on hair, bald spots, frequent scratching.

Teeth and Mouth—Irregular teeth, stained teeth, cracking of lips at corners of mouth, pale or blue lips, inflamed or bleeding gums.

Behavior When Playing—Tires easily, becomes breathless following moderate activity, lack of interest or loss of interest in sports and games, unusual clumsiness or poor coordination, unusual excitability.

General Behavior—Docile and seclusive, aggressive, depressed and unhappy, excessive daydreaming, difficulty in working and playing with others, excessive thirst, frequent use of the toilet, unusual tenseness.

In addition to observing pupils, the teacher should give careful attention to pupils' complaints. These may include pain, headache, fever, dizziness, buzzing in the ears, sore throat, toothache, blurring of vision, or itching of the skin or scalp. Such complaints should never be discounted. They may be due to acute disease or to a physical impairment. Pupils with health complaints should be brought to the attention of parents in the same manner as those whose appearance or behavior deviates from normal.

Referral Procedures

The action a teacher takes when a pupil does not appear well or complains about his health will vary with what the teacher observes or the nature of the complaint and with the availability of nurse and physician services. If a communicable disease seems a possibility, the teacher will immediately separate the suspected pupil from others. The parent will be called and arrangements made for the pupil to be taken home. (See Chapter 10, "Communicable Disease Control.") If a nurse is available she may assist with these procedures.

Whenever possible, the teacher will discuss his observations of noncommunicable health problems with the nurse serving the school. The teacher should know the days and hours that the nurse will be at the school and confer with her at the earliest possible time. Together they can evaluate the significance of the observations and decide if they warrant parent attention. If there is doubt concerning the need for informing parents of conditions observed, the nurse may suggest that the pupil be seen by the school medical advisor, if one is available. The latter will give prompt attention to such requests, giving them precedence over routine examinations.

In many schools, nurse-teacher conferences are scheduled regularly throughout the year. At these conferences the nurse and the teacher review pupils' health records and discuss the health observations made by the teacher. They decide on a procedure for bringing pupils' health problems to the attention of parents and on measures to encourage parents to secure needed treatment. The teacher-nurse conference is a means of increasing teacher understanding of health conditions and of developing teamwork in school health activities.

Where little or no nursing service is available, the teacher, with the approval of his principal, may telephone a mother to discuss a pupil's health condition or invite the mother to school. If the mother is unable to come to school, a conference may be held at the pupil's home. Such a meeting is predicated on mutual interest of the teacher and parent in the pupil's welfare and recognition of the need of school personnel to understand the pupil's problems. The teacher describes his observations in objective terms and encourages the parent to decide what action is necessary. Care should be taken to avoid implying that the parent is at fault or neglectful. Emphasis should be placed on the parents' responsibility to initiate corrective measures and to choose the physician or other professional person from whom they will seek professional advice.

Basic to effective referral procedures are adequate lines of communication between school personnel and parents and between parents and the physician who cares for the child or youth.

The importance of teacher observations and teacher-parent conferences carries implications for institutions preparing teachers. Part of a teacher's preparation should be directed toward helping him to understand the health problems of children and youth, to develop skill in observing pupils, to learn ways of communicating with health personnel, to become familiar with community health resources, and to learn the techniques of discussing health problems with parents.

Teacher observations supplement and complement other procedures for appraising pupil health. They are particularly helpful in detecting the onset of a communicable disease as well as the beginning signs of numerous conditions which are not easily detected by the usual medical examination or which may have developed since the last medical examination. Such signs include a deterioration in writing, or general clumsiness, which may indicate chorea (St. Vitus' dance) ; headache, visual difficulties, or dizziness, which may be the first signs of brain tumor; and moments of unconsciousness, which may indicate epilepsy. Neither the teacher nor the nurse ever makes a diagnosis, but it is important that their observations be made known to the parent, and through the parent to the pupil's medical advisor. No program to appraise pupil health can be fully effective without skillful teacher observations.

SCREENING TESTS

Screening tests are useful procedures in health appraisal. Although not diagnostic, they, like teachers' observations, "screen out" those who need further attention. Performed by teachers, nurses, or technicians, they provide a preliminary evaluation of the state of development or functioning of various body organs. Screening tests may uncover health problems not identified by observation of pupil appearance and behavior.

Kinds of Screening Tests

Numerous screening tests are available. Examples of these are blood tests for syphilis, urinalyses, vision tests, stool examinations, hemoglobin measurements, nose and throat cultures, tuberculin tests and x-ray of positive reactors, hearing tests, blood smears for malaria organisms, measurements of blood pressure, tape recordings of heart sounds, and measurements of height and weight. Sometimes absentee records are scrutinized as a screening device to single out those pupils who are absent frequently because of sickness.

Some screening procedures are appropriate for school use while others are better performed in a physician's office or a hospital laboratory. Screening procedures in schools to test vision and hearing are especially valuable since they deal with the senses fundamentally affecting pupils' ability to profit from school experiences. Such tests should be included in every school health program. Detailed information about methods for conducting these tests is presented in the next two chapters (Chapter 4, "The Eyes and Vision Screening," and Chapter 5, "Hearing Impairment and Hearing Testing").

Weighing and measuring are other frequently used screening procedures. Although limited as a means of identifying pupils in need of medical attention, weighing and measuring have significant educational values. They capitalize on pupil and parent interest in physical growth and provide a good opportunity for the teacher to discuss some of the characteristics of human growth and the factors which influence it.

Other screening procedures are not ordinarily included in school health services, although they may be in a particular community under certain circumstances. A decision to add a specific screening device to the school program should follow discussion of its need and value by school, medical, and public health personnel. The discussion should consider the incidence in the local community of the problem which the test will screen and the suitability of the procedures for use in the schools. For example, schools in areas where the incidence of tuberculosis is high may, on the recommendation of local physicians, leaders in public health, and tuberculosis specialists, include tuberculin tests for pupils in selected grades followed by x-ray examination of positive reactors.

It is unwise to introduce new screening procedures into the school health program without general approval by the local medical, public health, and educational agencies.

Measuring Physical Growth

Weighing and measuring is a procedure usually correlated with health education relating to physical growth and the factors that affect growth. It is an activity that young pupils enjoy so much that it has been said, "One way to make a friend out of a child is to measure him." Older pupils, too, are interested in growth. They want to know how tall they are and how much they weigh.

Good practice is to weigh and measure pupils three times during the school year: at the beginning, in the middle, and at the end of the school year. Weight should be measured with shoes and coats removed and recorded to the nearest half-pound. Height should be measured with shoes removed and recorded to the nearest one-fourth inch. Measurement of young children should be made by the teacher; older ones may measure themselves under teacher supervision.

Records of height and weight provide information concerning growth. Comparison of measurements among pupils should be discouraged. Since they are in different stages of growth, emphasis should be placed on the individuality of each pupil and on his present measurements in relation to his previous measurements. Pupils should compete with their own past records of growth, and only incidentally with others. Physiological development may vary five years or more among those of the same chronological age, and rate of growth is not constant. Pupils who over a period of several months lose weight, show no gain, or gain excessively should be examined by a physician to determine reasons for their condition.

Interest aroused in pupils when they are weighed and measured can be used to help them increase their understanding of how growth takes place and the factors that influence it. Young children can learn that food, physical activity, and rest foster optimal growth. In the upper elementary grades, boys and girls can learn that growth is irregular, sometimes rapid and sometimes slow;

that girls experience the preadolescent growth spurt at an earlier age than boys; that all boys do not begin the growth spurt at the same age, nor do all girls; and that each boy and girl grows at his own rate. Later on, they can learn how growth is influenced by the endocrine glands. It is important for children and youth to learn that height and body build are inherited characteristics and that both tall and short persons may be attractive and healthy.

Measurements of height and weight usually are recorded on pupils' cumulative health cards, although some schools prefer to keep separate growth charts. Among the latter are those prepared by Howard V. Meredith for the Joint Committee on Health Problems in Education.[2] Separate forms for boys and girls aged 4 to 18 indicate normal zones for the tall, moderately tall, average, moderately light, and light. Different techniques for recording growth have been developed by other authors. A decision to use any of these growth charts should result from a careful study of the contributions they can make to the total school program. In the upper grades and in secondary schools, pupils can maintain their own growth records under teacher supervision. (See Figures I & II.)

HEALTH HISTORIES

Knowledge of a pupil's past sicknesses, of accidents and operations he may have had, his pattern of growth and development, and the immunizations he has received are important factors in evaluating health. Securing such information, referred to as the pupil's health history, is an integral part of health appraisal. Health histories may be obtained in a variety of ways and sometimes by a combination of procedures.

Data To Be Obtained

Health histories include data related to different aspects of health. They reveal whether a pupil feels that he is well or sickly and whether parents feel that a pupil's health is good, average, or poor. They tell what diseases a pupil has had, with particular attention to such conditions as rheumatic fever, chorea, convulsions, diabetes, and allergies. Information is provided about operations, serious accidents, exposure to tuberculosis, and on the frequency and severity of colds or attacks of tonsillitis. The health history should provide information about previous immuniza-

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[2] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Physical Growth Record* (for Boys and for Girls). Washington, D.C. and Chicago: the Associations.

FIGURE I | PHYSICAL GROWTH RECORD FOR BOYS

PURPOSE OF RECORD: To supply interesting and helpful information regarding the growth of

________________________ ________________________
(school boy's name) (date of birth)

HOW CHILDREN SHOULD BE MEASURED:

Directions for determining weight. If available, use beam-type, platform scales. At the beginning of each examination period check the scales and, in the event they are out of balance, adjust them. Have the boy remove shoes and coat or sweater. Request the subject to stand in the center of the platform of the scales. Determine weight to the nearest one-half pound.

Directions for measuring height. Use a measure fixed in the upright position, and a wooden headpiece having two faces at right angles. The measure may be a yardstick or an accurate measuring tape fastened either on a special board or (if there is no projecting wainscoting) directly on a smooth wall. While it is possible to use a cigar or chalk box as a headpiece, it is recommended that one be made of more satisfactory design. Measure height with shoes removed. Have the boy stand with heels, lower back, shoulders, and rear of head in contact with the wall or board; heels nearly together but not touching each other; arms hanging at the sides in a natural manner and the head facing straight forward. When the subject is in position, place one face of the headpiece against the board or wall and bring the other face down, keeping it horizontal, until it makes firm contact with the top of his head. See that the heels are kept in contact with the floor and the trunk is maintained in "non-slumped" contact with the measure. Take two separate height measurements on each boy. Record height to the nearest one-fourth inch.

HOW TO USE THE RECORD:

Registering height and weight status. Example: Assume this is the record of Don Jones. Don weighs 43 pounds, is 44 inches in height, and has just had his fifth birthday.

Height

a) Find age 5 along the *top* of the chart.
b) Locate 44 *inches* along the *upper* left-hand margin.
c) Plot a point *under* the 5 and opposite 44.
d) Just *above* this dot on the HEIGHT graph write "44.0."

Weight

a) Find age along the *bottom* of the chart.
b) Locate 43 *pounds* along the *lower* left-hand margin.
c) Plot a point *above* the 5 and opposite the 43.
d) Just below this dot on the WEIGHT graph write "43.0."

Registering height and weight progress. Example: Assume Don is now six months older—at age 5¼ years his weight was 44½ pounds; now at 5½ years he weighs 46 pounds and has a height of 45¼ inches. Further, assume that

FIGURE I (Continued)

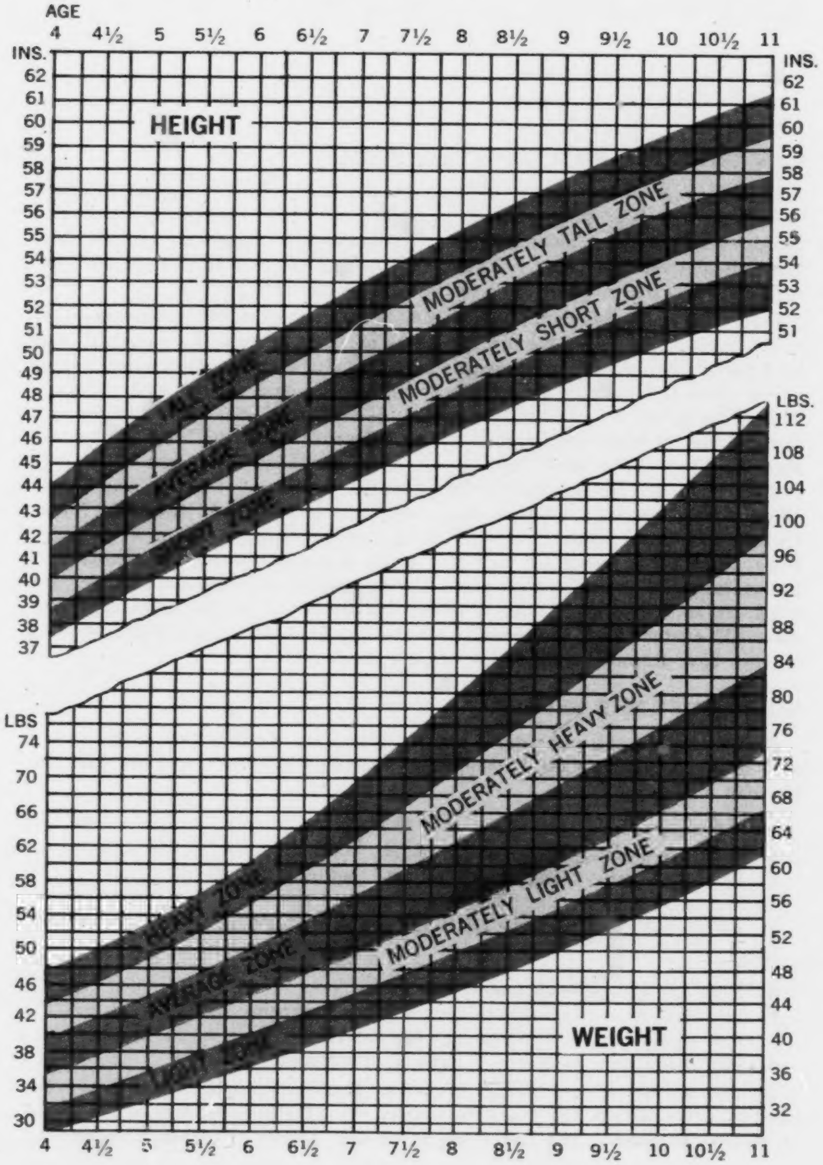


FIGURE I (Continued)

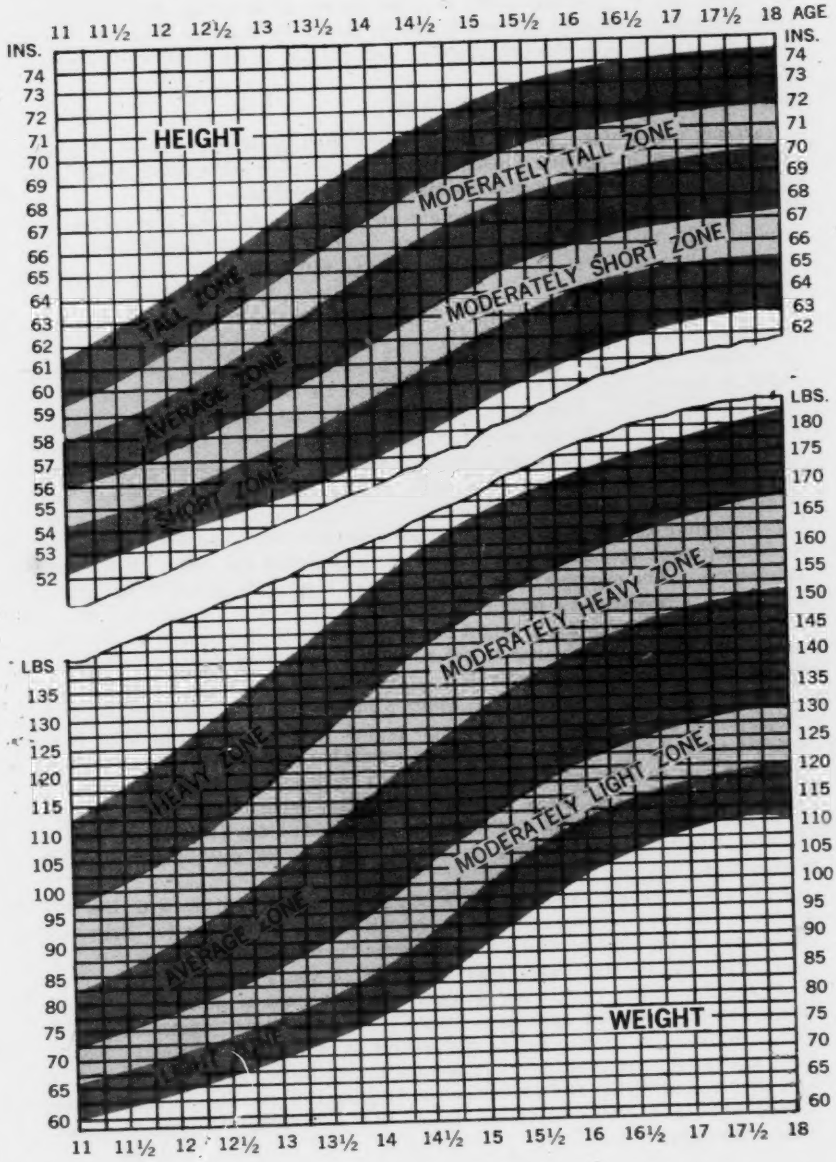


FIGURE I (Continued)

points representing Don's height at 5½ and his weight at 5¼ and 5½ have been plotted at the appropriate places on the chart. Having records at more than one age, it is now possible to draw curves of progress. Don's progress over the age period 5 to 5½ years may be shown by drawing lines connecting (a) the two points on the height graph and (b) the three points on the weight graph.

HOW TO INTERPRET THE RECORD:

Interpreting status. 1. The measurement figures written above or below each plotted point provide a ready description of each boy's actual height and weight at all of the ages measurements have been taken.

2. The zones in which a boy's height and weight points for a given age are located indicate his standing, in relation to other boys of the same age. The sample values given at 5 years show Don to fall in the "Average zone" for both height and weight.

3. Whenever a boy's height and weight points do not fall in like zones (e.g., Tall and Heavy, Short and Light), the dissimilarity may indicate stockiness or slenderness of build and/or it may furnish an important lead regarding state of health. To illustrate, suppose at the time of first measurement, the height point of Pat Thomas is found to lie in the "Average zone" and his weight point in the "Light zone." Pat should be referred to a physician for examination. It may be he is a healthy child of slender build. On the other hand, he may have some infection, need an improved diet, or require changes in his daily living habits.

Interpreting progress. 1. The difference between a boy's heights (or weights) at two different ages shows the amount of change that has taken place during the interval. For example, Don Jones between 5 and 5½ years of age gained 1¼ inches in height and 3 pounds in weight.

2. The relation of a boy's height or weight curve to the curves on the chart gives some idea as to whether or not he is growing satisfactorily. To explain: Individual curves for height should run about parallel with the height lines on the chart. For this reason, if Jim Smith's curve falls along the middle of the "Moderately short zone" over the age period 5 to 8 years and then tends sharply toward the "Short zone" (due to a gain between 8 and 8½ of only ¼ to ½ inch), his growth after age 8 obviously warrants medical investigation. Although semi-annual weight growth is often less regular than height growth, an individual weight curve which shows a downward dip (loss of weight) or remains level (failure to gain) is sufficient reason for referring the boy to a physician.

3. The alignment of an older boy's height and weight curves with the zone paths on the chart shows satisfactory growth if one allows for the individual differences in the time at which the adolescent "growth-spurt" may occur. This is, interpretations over the age period 11 to 18 years are no different from those for the period 4 to 11 except that attention must be given to variations in the age at which the adolescent "spurt" may take place. Assume Ted, Bill, and Dick are alike in both height and weight at each age from 4 to 11 years—Ted may begin more rapid height and weight growth before 13, Bill around 14, and Dick not until 15. It follows that as long as Bill and Dick are continuing steady growth at their childhood rates, this growth should not be judged "unsatisfactory."

FIGURE II | PHYSICAL GROWTH RECORD FOR GIRLS

PURPOSE OF RECORD: To supply interesting and helpful information regarding the growth of

(school girl's name)	(date of birth)

HOW CHILDREN SHOULD BE MEASURED:

Directions for determining weight. If available, use beam-type, platform scales. At the beginning of each examination period check the scales and, in the event they are out of balance, adjust them. Have the subject remove shoes and sweater or jacket. Request her to stand in the center of the platform of the scales. Determine weight to the nearest one-half pound.

Directions for measuring height. Use a measure fixed in the upright position, and a wooden headpiece having two faces at right angles. The measure may be a yardstick or an accurate measuring tape fastened either on a special board or (if there is no projecting wainscoting) directly on a smooth wall. While it is possible to use a cigar or chalk box as a headpiece, it is recommended that one be made of more satisfactory design. Measure height with shoes removed. Have the girl stand with heels, lower back, shoulders, and rear of head in contact with the wall or board; heels nearly together but not touching each other; arms hanging at the sides in a natural manner and the head facing straight forward. When she is in position, place one face of the headpiece against the board or wall and bring the other face down, keeping it horizontal, until it makes firm contact with the top of her head. See that the heels are kept in contact with the floor, that the trunk is maintained in "non-slumped" contact with the measure, and that no obstruction (e.g., comb, clasp, ribbon, or braid) prevents contact with the head. Take two separate height measurements on each girl. Record height to the nearest one-fourth inch.

HOW TO USE THE RECORD:

Registering height and weight status. Example: Assume this is the record of Dora Jenks. Dora weighs 42 pounds, is 43 inches in height, and has just had her fifth birthday.

Height

a) Find age 5 along the *top* of the chart.
b) Locate 43 *inches* along the *upper* left-hand margin.
c) Plot a point *under* the 5 and opposite 43.
d) Just *above* this dot on the HEIGHT graph write "43.0."

Weight

a) Find age 5 along the *bottom* of the chart.
b) Locate 42 *pounds* along the *lower* left-hand margin.
c) Plot a point *above* the 5 and opposite the 42.
d) Just *below* this dot on the WEIGHT graph write "42.0."

Registering height and weight progress. Example: Assume Dora is now six months older—at age 5¼ years her weight was 43½ pounds; now at 5½ years she weighs 45 pounds and has a height of 44¼ inches. Further, assume that

FIGURE II (Continued)

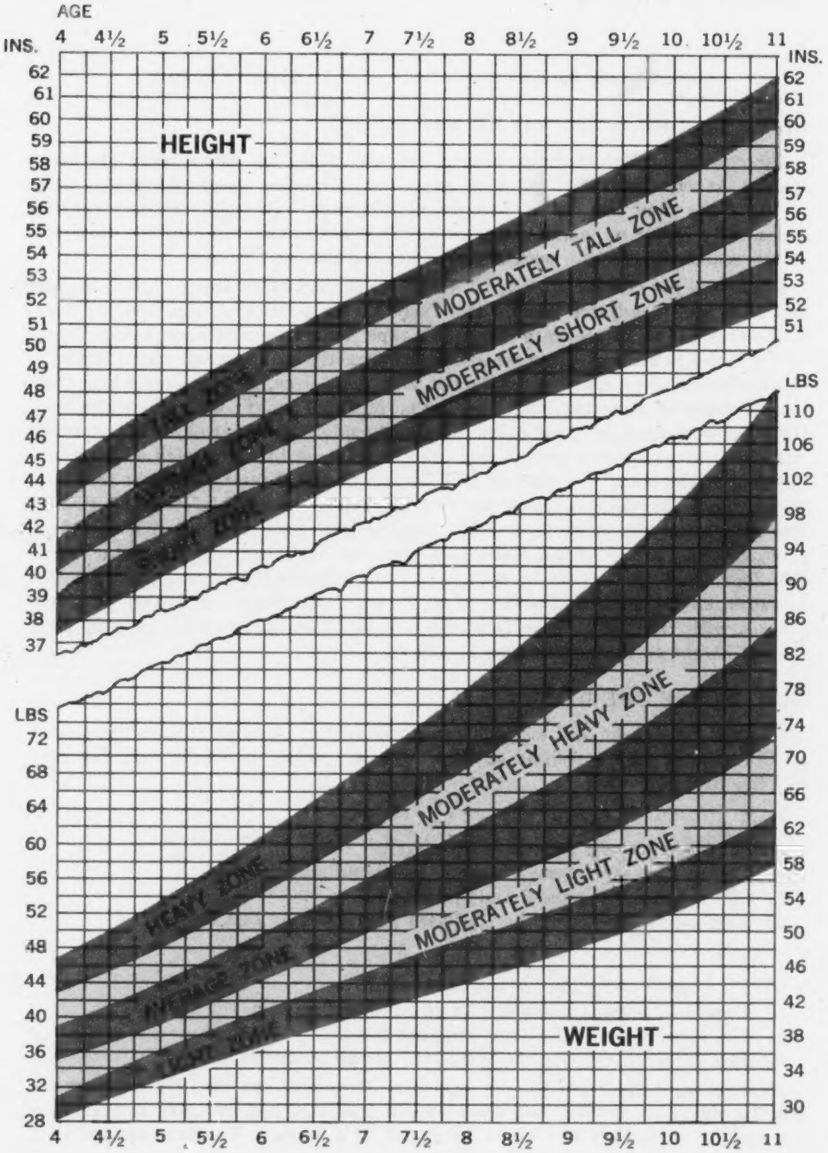


FIGURE II (Continued)

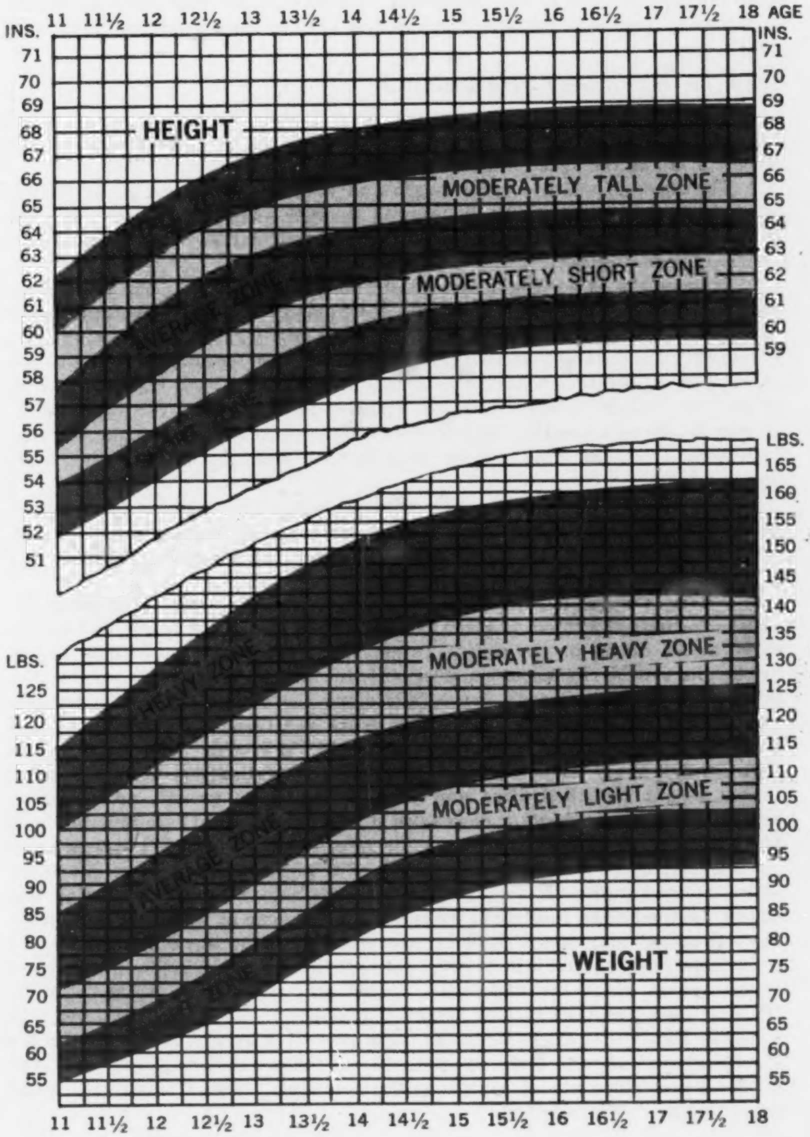


FIGURE II (Continued)

points representing Dora's height at 5½ and her weights at 5¼ and 5½ have been plotted at the appropriate places on the chart. Having records at more than one age, it is now possible to draw curves of progress. Dora's progress over the age period 5 to 5½ years may be shown by drawing lines connecting (a) the two points on the height graph and (b) the three points on the weight graph.

HOW TO INTERPRET THE RECORD:

Interpreting status. 1. The measurement figures written above or below each plotted point provide a ready description of each girl's actual height and weight at all of the ages measurements have been taken.

2. The zones in which a girl's height and weight points for a given age are located indicate her standing, in relation to other girls of the same age. The sample values given at 5 years show Dora to fall in the "Average zone" for both height and weight.

3. Whenever a girl's height and weight points do not fall in like zones (e.g., Tall and Heavy, Short and Light), the dissimilarity may indicate stockiness or slenderness of build and/or it may furnish an important lead regarding state of health. To illustrate, suppose at the time of first measurement the height point of Mary White is found to lie in the "Average zone" and her weight point in the "Light zone." Mary should be referred to a physician for examination. It may be she is a healthy child of slender build. On the other hand, she may have some infection, need an improved diet, or require changes in her daily living habits.

Interpreting progress. 1. The difference between a girl's heights (or weights) at two different ages shows the amount of change that has taken place during the interval. For example, Dora Jenks between 5 and 5½ years of age gained 1¼ inches in height and 3 pounds in weight.

2. During the period from age 4 years to age 9 years, information on satisfactoriness of growth is given in the relation of a girl's height and weight curve to the curves on the chart. To explain: Up to age 9, individual curves for height should run about parallel with the height lines on the chart. For this reason, if Jane Sneed's curve falls along the middle of the "Moderately short zone" over the age period 4 to 7 years and then tends sharply toward the "Short zone" (due to a gain between 7 and 7½ of only ¼ to ½ inch), her growth after age 7 obviously warrants medical investigation. Although semi-annual weight growth is often less regular than height growth, an individual weight curve which shows a downward dip (loss of weight) or remains level (failure to gain) is sufficient reason for referring the girl to a physician.

3. Beyond age 9 years, the alignment of a girl's height and weight curve with the zone paths on the chart shows satisfactory growth providing one allows for the known individual differences in the time at which the adolescent "growth-spurt" may occur. That is, interpretations after age 9 are no different from those for the years 4 to 9 except that attention must be given to variations in the age at which the adolescent "spurt" may take place. Assume Nancy, Jill, and Ruth are alike in both height and weight at each age from 4 years to 9 years—Nancy may begin her more rapid growth in height and weight before 11, Jill around 12, and Ruth not until 13. It follows that as long as Jill and Ruth are continuing steady growth at their childhood rates, this growth should not be judged "unsatisfactory."

tions, including recall or "booster" injections, as well as the results of special tests, such as tuberculin tests.

At the time of examination of young children the physician will request supplemental information dealing with such matters as birth history, rate of growth and development, early feeding practices, health habits, and familial health conditions. Special consideration will be given to factors that might indicate possible brain damage at the time of birth or just preceding or following birth. Such damage is the cause of some children not doing well in their school work.

Health histories are of particular importance because they provide information that cannot be obtained, or at least is not easily obtained, by other appraisal procedures. Neither teacher observations, usual school screening tests, nor even a medical examination can always reveal that one pupil suffered an attack of rheumatic fever during spring vacation or that another pupil has severe diabetes. A pupil who has suffered these conditions or who has asthma or some other allergy may seem perfectly well at the time of a medical examination, but his health problem may be identified through his health history.

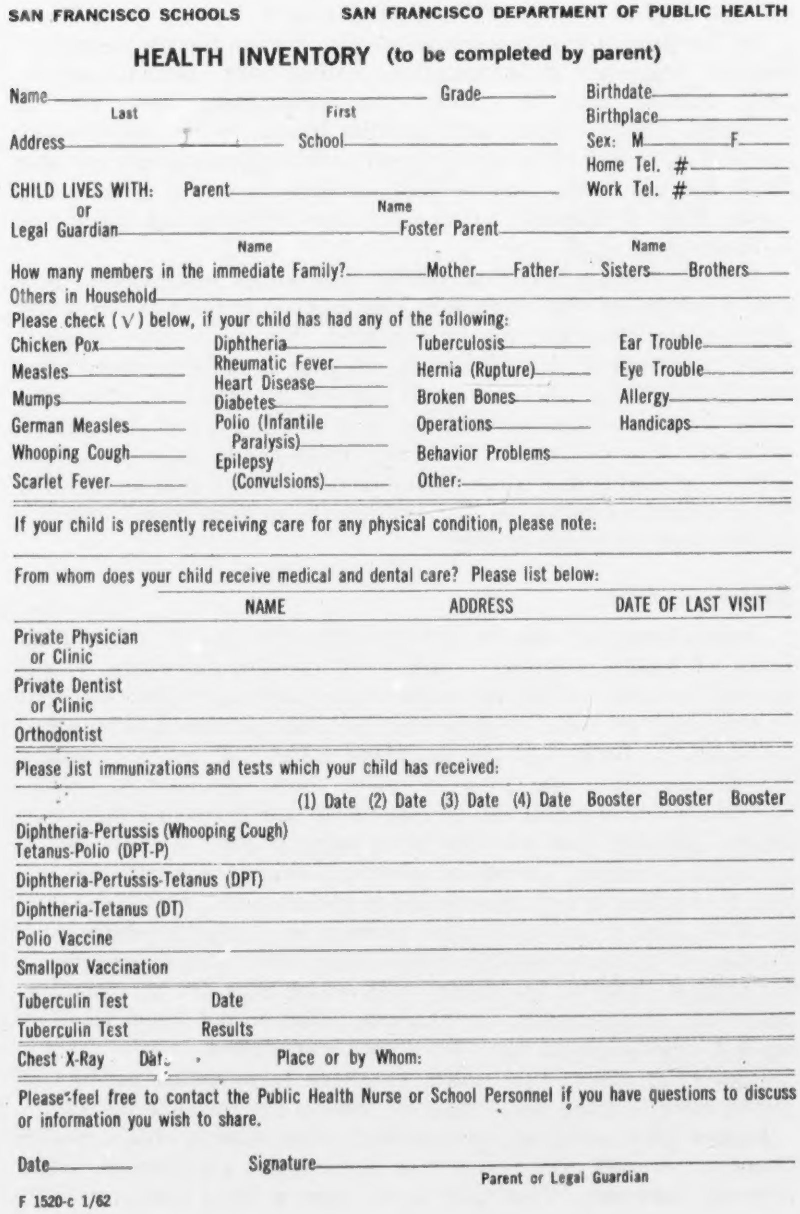
Useful Methods

Health histories may be obtained through use of a questionnaire or health inventory form. Use of this procedure in elementary schools and the information requested may differ from that in secondary schools. In elementary schools, parents will be asked to fill in the form, and the questions asked will relate to health experiences from the time of birth until entrance to school. Secondary school pupils can be responsible for preparing their own health histories, this activity often being a part of their health education program. Questions asked will deal with pupils' present health and their health experiences in recent years, with care taken to avoid asking for information already on a pupil's health card. Pupils will be encouraged to obtain from their parents significant facts about their health history with which they are not familiar. Secondary school pupils, for example, often do not know when or against what diseases they have been immunized.

Figure III shows the health inventory form which parents of pupils attending the San Francisco schools are asked to fill out.

Rather than using a questionnaire, some schools obtain health histories through nurse-parent or nurse-pupil conferences. This personal approach, often used at the time a pupil first enrolls in

FIGURE III



SAN FRANCISCO SCHOOLS **SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH**

HEALTH INVENTORY (to be completed by parent)

Name ______________________ (Last) ______________________ (First) Grade ______ Birthdate ______
Birthplace ______
Address ______________ School ______________ Sex: M ______ F ______
Home Tel. # ______
CHILD LIVES WITH: Parent ______________________ (Name) Work Tel. # ______
or
Legal Guardian ______________ (Name) Foster Parent ______________ (Name)
How many members in the immediate Family? ______ Mother ______ Father ______ Sisters ______ Brothers ______
Others in Household ______________________

Please check (√) below, if your child has had any of the following:

Chicken Pox ______
Measles ______
Mumps ______
German Measles ______
Whooping Cough ______
Scarlet Fever ______

Diphtheria ______
Rheumatic Fever ______
Heart Disease ______
Diabetes ______
Polio (Infantile Paralysis) ______
Epilepsy (Convulsions) ______

Tuberculosis ______
Hernia (Rupture) ______
Broken Bones ______
Operations ______
Behavior Problems ______
Other: ______

Ear Trouble ______
Eye Trouble ______
Allergy ______
Handicaps ______

If your child is presently receiving care for any physical condition, please note:

From whom does your child receive medical and dental care? Please list below:

	NAME	ADDRESS	DATE OF LAST VISIT
Private Physician or Clinic			
Private Dentist or Clinic			
Orthodontist			

Please list immunizations and tests which your child has received:

	(1) Date	(2) Date	(3) Date	(4) Date	Booster	Booster	Booster
Diphtheria-Pertussis (Whooping Cough) Tetanus-Polio (DPT-P)							
Diphtheria-Pertussis-Tetanus (DPT)							
Diphtheria-Tetanus (DT)							
Polio Vaccine							
Smallpox Vaccination							

Tuberculin Test Date
Tuberculin Test Results
Chest X-Ray Date Place or by Whom:

Please feel free to contact the Public Health Nurse or School Personnel if you have questions to discuss or information you wish to share.

Date ______ Signature ______________________ Parent or Legal Guardian

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school, has many advantages. It establishes good nurse-parent and nurse-pupil rapport and often provides more valuable and accurate information than obtained through questionnaires.

As mentioned previously, the physician frequently secures additional information concerning the past health at the time he examines a child. Health history data, regardless of how or by whom obtained, should be recorded on a pupil's health card. This makes it unnecessary to secure the same information over and over again each time a child is to have a medical examination.

MEDICAL EXAMINATIONS

Periodic medical examinations are an important part of a health appraisal program. At the time of such examinations the physician reviews the reports and records of other appraisal procedures, including teacher observations, information concerning a pupil's past health experiences, and the results of screening tests. Such information combined with the results of a medical examination provides a fairly complete picture of a pupil's health assets and health liabilities.

In urban communities a director of school health services employed by the schools or by the health department may provide leadership in planning a program of medical examinations, while in small towns or rural communities leadership may come from any member of a committee established for this purpose. The committee will desirably include representation from the schools, the medical society, the health department, and other groups concerned with health and education. Formulation of a medical examination program requires answers to many questions, including: (a) Who should examine pupils? (b) How frequently should pupils be required or encouraged to obtain medical examinations? and (c) Where should examinations be conducted? Viewpoints on some of these questions are presented in the following pages.

Who Should Examine Pupils?

Medical examination procedures in a particular community should be developed with due consideration to legal requirements and with careful attention to the educational and health factors involved. Ideally, every child should have periodic examinations beginning at the time of birth and continuing during the preschool and school years. Unfortunately, such care is not provided by all parents.

Examination of pupils by their own physician in the physician's office is becoming increasingly common and has both medical and educational advantages. Under this plan a pupil and his parents develop a relationship with a physician that makes it easier for them to call on him for needed information or advice. If a health problem exists, the physician can explain its nature and significance. The physician is able to carry out without delay any therapy that his examination suggests since, with the parent present, the needed authorization is immediately available. Privacy is assured, and the physician has on hand in his office the needed equipment and facilities for special tests and for treatment, as well as records of previous examinations and previous treatment, including immunizations. Educationally, examination in the private physician's office permits the pupil to appreciate the conditions under which one calls on a physician and to become accustomed to seeking medical advice from his physician. Examinations made in this manner encourage desirable pupil-physician relationships and have a real potential for carry-over of the practice into post-school life. They are educational experiences of great value.

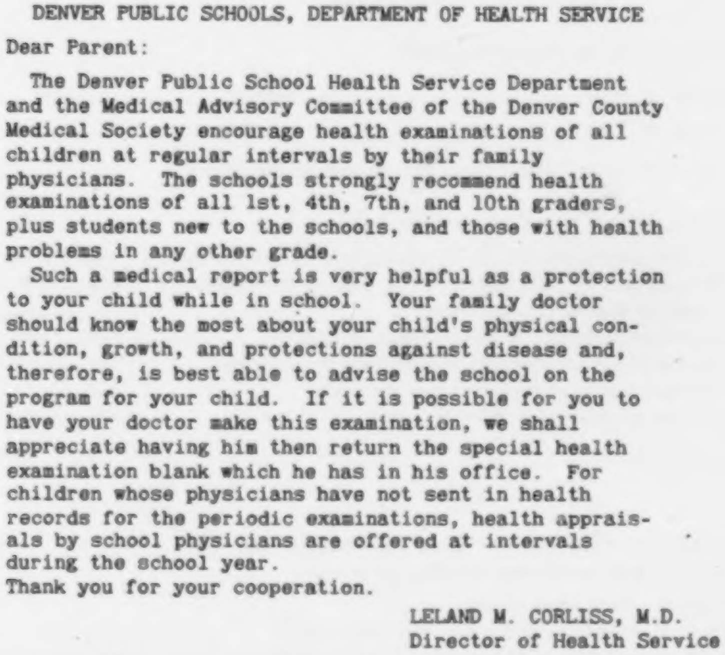
Referral of pupils to their own physicians for periodic examinations must be done in a manner to avoid embarrassment of those who cannot or do not follow this procedure. Figure IV shows the tactfully worded form letter used in the Denver public schools. It points out the advantages of a family physician's examination, but casts no reflection on those who cannot follow the recommended procedure.

Experience in many communities shows that the number of pupils going to their family physician for examination can be increased from year to year through educational efforts. Such efforts should begin with the parents of children entering school. They should emphasize the value of periodic medical examinations and the willingness of the school to receive suggestions from private practitioners regarding desirable modification of a pupil's school program because of health conditions.

The trend toward having pupils obtain medical examinations from their own physicians necessitates formulation of procedures for the physician to transmit information needed by the schools, including suggestions concerning the pupil's ability to participate in regular school activities. Exchange of information is facilitated when the school or school system provides a form on which the physician may record the results of his examination as well as his recommendations. A simple, concise form developed by the Wisconsin Cooperative School Health Program is shown in Figure V.

A program needs to be developed to provide periodic medical

FIGURE IV



DENVER PUBLIC SCHOOLS, DEPARTMENT OF HEALTH SERVICE

Dear Parent:

The Denver Public School Health Service Department and the Medical Advisory Committee of the Denver County Medical Society encourage health examinations of all children at regular intervals by their family physicians. The schools strongly recommend health examinations of all 1st, 4th, 7th, and 10th graders, plus students new to the schools, and those with health problems in any other grade.

Such a medical report is very helpful as a protection to your child while in school. Your family doctor should know the most about your child's physical condition, growth, and protections against disease and, therefore, is best able to advise the school on the program for your child. If it is possible for you to have your doctor make this examination, we shall appreciate having him then return the special health examination blank which he has in his office. For children whose physicians have not sent in health records for the periodic examinations, health appraisals by school physicians are offered at intervals during the school year.

Thank you for your cooperation.

LELAND M. CORLISS, M.D.
Director of Health Service

examinations for pupils who are not examined by their own physician. The most frequent practice is the employment of a physician by the schools or the assignment to the schools of a physician employed by the health department. In large communities the service of a number of physicians will be needed.

Another method is the referral of needy children to a welfare or health department clinic or the outpatient department of a local hospital. Such children probably have received most of their previous medical services from these sources. In one sense such facilities serve in lieu of a personal physician.

Frequency of Medical Examination

The frequency of medical examinations of school children is determined by law in a number of states, but there is no uniformity in the requirements. The intervals between required examinations may be one, two, or more years.

Where there are no legal requirements, the frequency of medical examinations should be determined cooperatively by representatives of local physicians, public health officials, and school health per-

FIGURE V REPORT TO SCHOOL ON SIGNIFICANT FINDINGS OF HEALTH EXAMINATION

(This half to be sent to the school)

Name of Pupil______________ School______________ Grade______
Name of Parent______________ Address______________

Physical findings which are of significance to the school:

RECOMMENDATIONS TO THE SCHOOL:

Is the pupil capable of carrying a full program of school work? Yes______ No______
Should there be restrictions on up and down stairs travel? Yes______ No______
Is special seating recommended? Yes______ No______
Would special exercises help to improve posture? Yes______ No______
Do you advise supplementary in-between meal feeding? Yes______ No______
Does pupil have any irremediable defects? Yes______ No______
Is there evidence of emotional upset? Yes______ No______

REMARKS:

CLASSIFICATION FOR PHYSICAL EDUCATION ACTIVITY
(Record Roman numeral as indicated at side.)

Code I —Unlimited activity
Code II —Slightly modified—under observation
Code III—Definitely restricted—i.e., cardiac disease, post acute infectious diseases, potential chests, etc.
Code IV—Individual physical education
Code V —Rest

RECOMMENDATIONS FOR THE HOME
(To be used as basis for school-home contact)

Is the present food intake adequate? Yes______ No______
If not, what changes are advised? Yes______ No______
Is more rest needed? Yes______ No______
Do you recommend curtailment of extra-curricular activities? Yes______ No______
Should work at home be restricted? Yes______ No______
Should a work permit be issued for pupil, if requested? Yes______ No______

REMARKS: (Please indicate also any specific need for dental, psychiatric, medical, or surgical care.)

Date______________ Signature of Examining Physician______________

REPORT OF FOLLOW-UP:
(To be filled out by school personnel—please be specific.)

sonnel. They will be guided by consideration of (a) available medical manpower, (b) the health needs of children and youth, (c) anticipated outcomes in relation to money expended, and (d) community customs and mores.

The frequency with which children of school age should be encouraged or required to have medical examinations is a matter on which there are differences of opinion. Some consider that an examination at the time of entrance to school is sufficient; others favor examinations at intervals of three or four years; still others believe annual examinations are desirable. Agreement exists on the need for pupils to be referred for medical examination whenever a health problem occurs or is suspected.

The question of frequency of medical examinations has been discussed at numerous conferences. A summary of viewpoints from the proceedings of the 1959 Conference on Physicians and Schools included the opinion that "previously determined optimum frequencies are still acceptable—at least four examinations during the school life of a child and additional examinations whenever referral is made by school nurse or doctor." [3]

Numerous professional groups have had a hand in setting these "previously determined frequencies," including the National Committee on School Health Policies and the American Academy of Pediatrics.[4] The former, composed of representatives of numerous national professional groups, stated its views in these words:

> During their school years children should have a minimum of four periodic medical examinations—one at the time of entrance to school, one in the intermediate grades, one at the beginning of adolescence, and one before leaving school. Additional examinations should be made whenever something is suspected of being wrong. The number may vary from a single examination at school entrance supplemented by referral examinations where teachers are unusually skilled in observation of children, to annual examinations, if money, time and personnel permit. Fewer examinations of good quality with time for instruction and counsel are preferable to frequent and complete coverage of the school with inadequate examinations that are medically and educationally unsound. Medical examinations should be sufficiently painstaking and comprehensive to command medical respect, sufficiently informative to guide school personnel in the proper counseling of the pupil, and sufficiently personalized to provide a desirable educational experience.[5]

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[3] American Medical Association. *Report of the Seventh National Conference on Physicians and Schools*. Chicago: the Association, 1959. p. 62.

[4] American Academy of Pediatrics, Committee on School Health. *School Health Policies*. Evanston, Ill.: the Academy, 1954.

[5] National Committee on School Health Policies. *Suggested School Health Policies*. Third edition. Washington, D.C. and Chicago: National Education Association and American Medical Association, 1956. pp. 17-18.

Recommendations for the frequency of medical examinations are based on a synthesis of opinions rather than on known scientific facts. The paucity of scientific facts prompted those attending the Seventh National Conference on Physicians and Schools to suggest "a need for further controlled epidemiologic studies to determine the relative values of periodic examinations in comparison to base line examinations followed by teacher-nurse observation and follow-up."

One of the series of studies on this problem conducted in Rochester, New York, dealt particularly with the medical examination aspect of health appraisal.[6] Omitted from the study "because their detection does not require the professional time and skill of a physician" were such frequently occurring problems as "acute infections, minor skin diseases, adverse dental conditions, refractive errors and hearing loss." A preliminary report of the study suggested that "concentration of attention and effort to meet the needs of selected children . . . would appear to be a more constructive role for school medical personnel in elementary schools than a more general diffusion of their efforts." Those reporting on the data feel that "periodic medical examinations during the first four years of elementary school are of little value from a case-finding standpoint." They agree, however, that the educational value of the health examination may be an important factor.

Additional studies are urgently needed. Data should be obtained to reveal the relative value and unique contributions of teacher observations, screening tests, health histories, and medical examinations. A distinction should be made between conditions known to exist before medical examination and those learned about for the first time because of that procedure. Studies of this nature should measure the contribution of each appraisal procedure to each of the objectives of the health appraisal program, including those related to education and to adapting instructional programs to pupil needs.

Definitive answers to the question of frequency of medical examinations are difficult to formulate because they require equating medical, economic, personal, and educational factors. Research will, in time, provide the facts on which answers can be based. In the meantime, the consensus of informed professional opinion, based on experience, can serve as a useful guide.

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[6] Yankauer, Alfred, and others. "A Study of Periodic School Medical Examinations—I. Methodology and Initial Results." *American Journal of Public Health* 52: 656-62; April 1962. Also "II. The Annual Increment of New 'Defects'." *Ibid* 46: 1553-62; December 1956. "III. The Remediability of Certain Categories of Defects." *Ibid* 47: 1421-29; November 1957. "IV. Educational Aspects." *Ibid* 51: 1532-40; October 1961.

Other Important Considerations

Medical examinations may vary depending on where they are performed. If the examination is in the private physician's office, he will have records of previous examinations and treatment and may omit procedures that he might carry out if he were examining a child previously unknown to him. Moreover, he may go beyond the usual school examination and make a definitive examination and immediately institute needed treatment. A physician examining pupils in school usually limits himself to checking various body systems and to determining gross deviations that might interfere with participation in the school program and the acquisition of an education. Such an examination has been properly labeled a screening examination since it is case-finding rather than diagnostic.

Children and youth cannot be examined properly when dressed. All areas of the body should be exposed to the examiner, although not all at the same time. For older girls a slip-over or other chest covering should be provided, and for both boys and girls the genitalia should be covered except during examination for hernia in the boys. Protection for the feet should be provided when the shoes and stockings are removed.

Parents should be present at the examinations of elementary school pupils, whether the examination is at the physician's office or at school. A parent can answer the physician's questions about the pupil's health and health history and can receive the physician's recommendations. Secondary school pupils are assuming increased independence including responsibility for their own health and usually feel more at ease if not accompanied by a parent.

Examination of pupils at school should be conducted in a quiet, adequately heated, and pleasantly decorated room. Provision should be made for privacy, each pupil being examined with no others present. The findings should be interpreted to the pupil or his parent, but should not reach the ears of other pupils. *A medical examination should be an individual experience, not a group activity.* "Lining up" by pupils should be avoided.

Medical examinations performed at school should approximate in quality, although not necessarily in extent, those given in a physician's office. The physician making the examination should be one whom the rest of the medical profession holds in high regard, and the examination should be sufficiently revealing of possible health problems to form a basis for needed school adaptations and for necessary counseling. Hurried, careless, impersonal examinations discredit the examining physician and all those involved in making the arrangements.

School and health department personnel should realize that children and youth may obtain medical examinations for a variety of purposes. In addition to periodic examinations required by the school, they may be asked to have an examination previous to going to camp or to participation in scouting activities, out-of-school athletic competition, or swimming at the YMCA and YWCA. Usually a different form has to be filled out following each examination. In some communities efforts have been made by various groups to coordinate medical examination requirements. This practice should become general as a means of conserving the time, money, and energy of all concerned.

CUMULATIVE HEALTH RECORDS

The effective administration of a school health service program requires records of the observations and findings of teachers, the nurse, physician, dentist, psychologist, school social worker, and a number of other people. Such records—an individual card for each pupil—are known as cumulative health records. A card is made out for each pupil at the time he enters school and is transferred with him as he moves from grade to grade, from school to school, or even from one community to another. The nature of the card, the kind of information it contains, and the way it is used are indicative of the effectiveness of the school health program.

No single pattern for cumulative health cards will fit every school administrative pattern. The development of a particular record form and the procedures for using it should be a cooperative project of those who will make use of it. Persons who help prepare a record form are more apt to use it properly and effectively.

Data They Contain

A pupil's cumulative health card contains all data useful to the school in promoting his health. It contains the result of teachers' observations, screening tests, significant facts from his health history, and the findings of medical, dental, and psychological examinations. In addition, there will be notes on health counseling and the results in general of follow-up procedures.

Consideration was given to the role of cumulative health records by the Expert Committee on School Health Services of the World Health Organization. After calling attention to the importance of records in helping the child to obtain and maintain maximum health within the limits of his potentialities, the following principles were presented:

1. Health records should be cumulative throughout the school life of the child. They should contain pertinent information regarding the child from the family physician, hospitals, and clinics. It is desirable that records showing preschool health supervision be a part of the school health record where this is possible. The record of health status during the school years can be of considerable value in guiding the child into the vocation for which he is most suited.
2. Health records should contain information on the preventive services (immunizations), screening tests (vision and hearing), findings of the private physician or the school medical examiner, and recommendations for therapeutic measures.
3. Health records should show the progress the child is making in attaining health objectives whether this be the correction of a physical defect, receiving adequate medical supervision, or developing new habits related to health status.
4. All available data bearing on the growth and development of the child should be a part of the cumulative record.[7]

In addition to data relating to health appraisal and health counseling, it is important to include information that would be helpful if the child should suffer a serious accident or become severely ill. This would include knowledge of where a parent can be located in an emergency, particularly pertinent when both parents work, as well as knowledge of whom to notify if a parent cannot be located. The name of the family physician and dentist, as well as the preferred hospital, should also be included.

Pupils' cumulative health cards may desirably be considered as health records rather than medical records. They should contain the recommendations of the physician but not necessarily the detailed findings of his examination. Recommendations often will be supplemented by information relating to the effect of a pupil's health condition on his ability to participate in school activities or suggestions regarding modification of his school program.

How They Are Used

Because of the number of different individuals who will use cumulative health cards it is important that there be mutual understanding of how they are to be used, who is responsible for recording data, and who will maintain the files. Wherever possible, clerical assistance should be provided.

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[7] World Health Organization. *Report on the First Session of the Expert Committee on School Health Services.* Technical Report Series, No. 30. Geneva: the Organization, 1951.

In planning the use of records, the need for their being accessible to teachers, principals, physicians, dentists, nurses, psychologists, social workers, and others must be kept in mind. However, records should be available only to authorized personnel. Due consideration should be given to the confidential nature of health cards and all school personnel informed regarding the professional use of data they contain and the need to avoid misuse. Physicians and nurses may wish to establish a "confidential file" for data which in their opinion are not appropriate for inclusion on a child's regular health card.

As school health records are used by personnel other than physicians and nurses, so also do physicians and nurses need to use records made by other personnel. Physicians and nurses counseling pupils regarding health matters need to consider all aspects of health—physical, emotional, and social. They need to know the results of intelligence tests and of other psychological tests and information about the pupil, his parents, and his home which has been gathered by the teacher, a counselor, a psychologist, or a social worker. Only by integrating all available information can an accurate picture be obtained of a pupil and his health problem.

Nonmedical and non-nursing personnel using health records should understand the meaning of the various entries and know how to use the information they provide. Some schools utilize teachers meetings as an opportunity for in-service education to help teachers and other school personnel learn how to use records in a professional and objective manner.

HEALTH EDUCATION OPPORTUNITIES

Medical examinations and other appraisal procedures are experiences which contribute to pupils' education. Pupils gain an appreciation of the work of physicians, nurses, and other health personnel. They develop increased understanding of health problems and of ways to protect and improve health.

Efforts should be made to realize all the potentialities for health education associated with health appraisal procedures. This requires careful classroom discussion of the purposes and values of medical examinations, encouragement of parental attendance at the examination of young pupils, and consideration of the emotional climate of the examining room.

Setting the Stage

As an integral part of his health education program, the teacher helps set the stage for periodic medical examinations. Classroom discussion may relate to various aspects of medical examinations and the procedures to be used. A physician or a nurse may visit the class to answer questions about the values of a medical examination. A physician may demonstrate a medical examination using a volunteer pupil as a subject. Where health questionnaires are used, the questions thereon may form topics for classroom conversation and the reasons for various questions may be explained.

Questions pupils ask are indicative of their interests and may lead to classroom projects in any number of areas. In one school the class became interested in hospitals and their role in caring for the sick; in another, pupils decided to learn about the stethoscope and how it was developed; still another group wanted to study the qualifications of physicians and nurses and to learn how they could prepare for health careers. Regardless of the approach used, helping pupils to learn the purposes and values of medical examinations and what they involve and utilizing their interests to motivate health education are good school practices.

Part of "getting ready" for medical examinations is the encouragement of pupils to take stock of their own health practices and to suggest ways to improve them. As they do this they may raise questions that can best be answered by a physician. They may be encouraged to formulate questions they would like to ask the physician at the time of their medical examinations.

Parent Responsibility

As mentioned earlier the importance of young children being accompanied by a parent at the time of their medical examination has become increasingly apparent. Such practice is desirable whether the examination is in the doctor's office or at school. It demonstrates a parent's interest and responsibility and provides an opportunity for them to get first-hand interpretation of the physician's findings. Frequently this facilitates immediate development of a plan of action to obtain needed treatment.

When parents accompany pupils examined at school, the rate of examinations is slowed down because the physician must take time to talk with each parent. This is desirable. Spending time informing parents about the health problems of children may bring greater returns than the same amount of time spent performing additional examinations. Many communities report, for example, that a high proportion of children whose parents attend examinations obtain recommended treatment.

It is common practice for parents to accompany children who are to be examined in a physician's office, but special efforts are needed to encourage the parents of pupils examined at school to be present. One method is to send written invitations in which the mother is informed of the exact date and approximate time that her child is to be examined. Sometimes teachers have pupils write personal letters to their parents, urging them to come to the examination and inviting them to visit the classroom while at school. Frequently, a teacher's statement to pupils expressing hope that their parents will come produces excellent results.

Parents who accompany children receiving medical examinations, regardless of where the examination is conducted, should have an informative and satisfying experience. During the waiting period, which should be as short as possible, they should have a comfortable place to sit, read, and talk. Attractive posters should decorate the room and interesting reading material should be at hand, including pamphlets on a variety of health topics, magazines like *Today's Health,* and other educational and health material. Parents and children should be identified by name and introduced, where necessary, to all persons involved in the examination procedures.

The Emotional Climate at the Examination

The personalities of the individuals present and the procedures that are used influence the emotional climate of the examination and thus affect the receptiveness of a pupil or parent to suggestions and recommendations. Friendliness and mutual interest in the health of a pupil must be evidenced by word and by action. Personalities must be respected and individual opinions given consideration. Questions concerning health problems should be answered accurately and as completely as possible in words appropriate to the particular child or parent.

The physician's comments should be both frank and constructive. Whenever possible, he should point out a pupil's health assets before centering attention on problems. In interpreting a health condition he should describe the nature of the difficulty, explain what can be done about it, and help the pupil or parent to map out a course of action.

Medical examinations and other appraisal procedures and the recordings of findings on cumulative health cards are primarily preliminary steps to health counseling and other follow-up procedures. Granted that appraisal procedures have certain intrinsic educational values, it is still true that the chief benefits to pupils result from what is done after health problems have been identified. How are pupils helped? How do they obtain the treatment they need? How are school programs adapted to their needs? These questions are discussed in Chapter 6, "Health Counseling."

FOR FURTHER READING

HAAG, JESSIE H. *School Health Program.* New York: Henry Holt and Co., 1958. 553 pp.

METROPOLITAN LIFE INSURANCE COMPANY. *What Teachers See.* New York: the Company, 1957. 33 pp.

NATIONAL COMMITTEE ON SCHOOL HEALTH POLICIES. *Suggested School Health Policies.* Third edition. Washington, D.C. and Chicago: National Education Association and American Medical Association, 1956. 40 pp.

NATIONAL COMMITTEE ON SCHOOL HEALTH POLICIES. *Suggested School Health Policies.* Fourth edition. Washington, D.C. and Chicago: National Education Association and American Medical Association, 1964.

NATIONAL EDUCATION ASSOCIATION AND AMERICAN MEDICAL ASSOCIATION, JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION. *Health Examination of School Personnel.* Washington, D.C. and Chicago: the Associations, 1960. 21 pp.

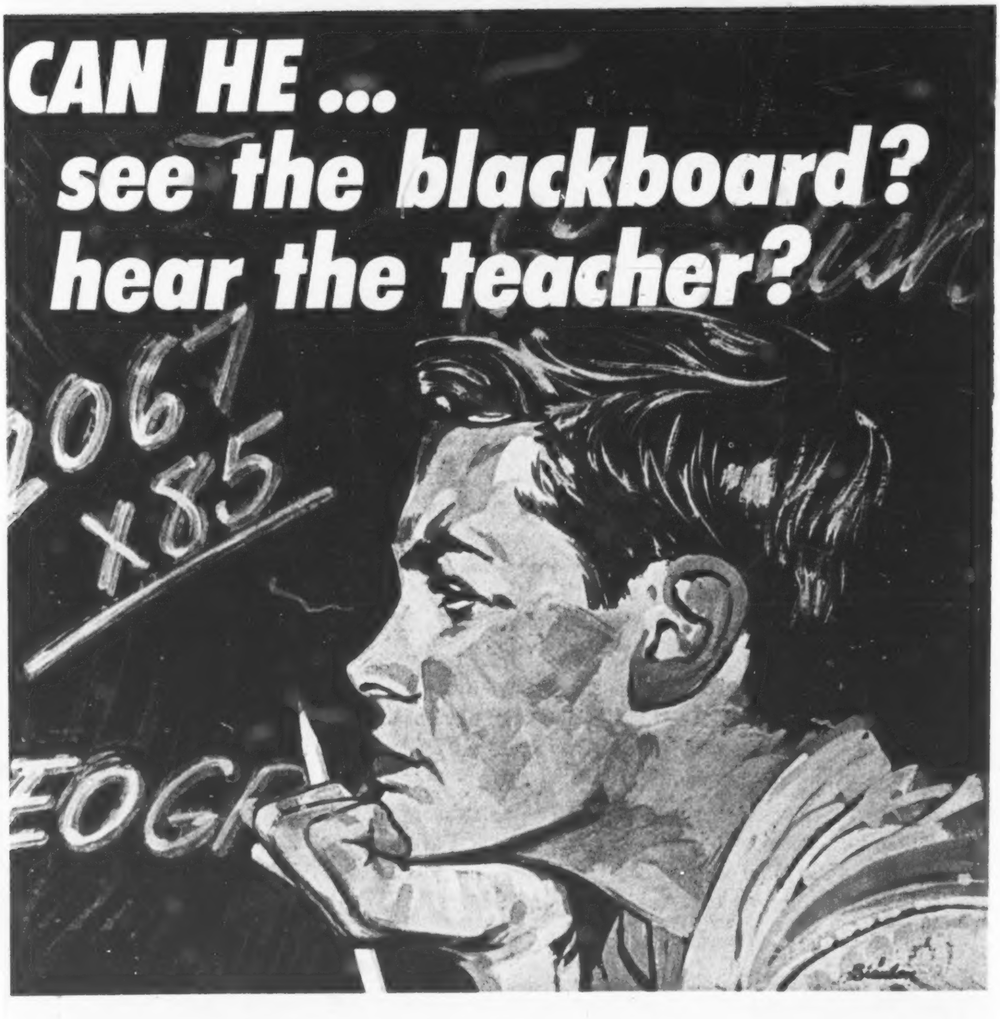
NATIONAL EDUCATION ASSOCIATION AND AMERICAN MEDICAL ASSOCIATION, JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION. *Health Appraisal of School Children.* Third edition. Washington, D.C. and Chicago: the Associations, 1961. 49 pp.

NEMIR, ALMA. *The School Health Program.* Philadelphia: W. B. Saunders Co., 1959. 428 pp.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION. *South Carolina Manual for Use of the Cumulative School Health Record.* Columbia, S.C.: the Department, 1962. 26 pp.

TURNER, C. E.; SELLERY, C. M.; AND SMITH, S. L. *School Health and Health Education.* St. Louis: C. V. Mosby and Co., 1961. 481 pp.

WHEATLEY, GEORGE M., AND HALLOCK, GRACE T. *Health Observation of School Children.* New York: McGraw-Hill Book Co., 1956. 488 pp.


CAN HE ...
see the blackboard?
hear the teacher?
2067
x85
EOGR

Find out *before* school starts.
1 out of every 5 school children has defective vision.
1 out of every 25 is hard-of-hearing.

Have your child's eyes and ears checked today.
Have *yours* tested at the same time.

Sponsored by the Physicians of Your Community

Chapter 4

The Eyes and Vision Screening

Procedures for appraising each pupil's eye health, closely integrated with other appraisal procedures, should be a part of school health services. Minimum procedures, supplementing physicians' examinations, include continuous teacher observations for signs of suspected eye disorder and an annual program of vision screening. These procedures are possible in every school; equipment is inexpensive and special personnel is not essential.

Responsibility for programs to appraise eye health is shared by administrators, physicians, nurses, and teachers. The administrator or the school physician, if one is available, brings together those who should share in planning the program and serves as a liaison with medical groups and other persons having special interest in the field of eye health. He solicits the help of these persons in selecting the particular type of vision screening test to be used and requests their advice on other matters relating to the eyes and vision. Nurses help teachers to understand the importance of observing pupils' eyes and their reactions to tasks requiring prolonged attention and accurate vision either for close work or for distant work. Nurses may also help teachers to become skillful in conducting and interpreting vision screening.

The effectiveness of efforts to appraise eye health depends on the competency of those who carry out the procedures involved. Individuals who have responsibility for any aspect of the program should be familiar with the common eye problems of children and youth, know the value of observing pupils' eyes, be aware of signs and symptoms that reveal eye difficulties, and understand the purposes and techniques of vision screening.

EYE PROBLEMS OF CHILDREN AND YOUTH

Since the eye is a complex organ composed of numerous parts and formed by different types of tissues, it is understandable that it may be afflicted by a variety of diseases, defects, and disorders. It is also a fairly frequent site of injury that may, in some instances, lead to blindness. Acute conjunctivitis (so-called "pink eye") is a common contagious eye infection. Signs of conjunctivitis and other diseases may be identified through parent or teacher observations or through medical examinations. Children with these conditions need to be placed under expert medical care without undergoing any screening procedure.

More common than eye diseases are refractive errors, defects of vision in which light rays do not properly come to a focus on the retina. Strabismus, or cross-eye, and color blindness, although less common, are other important eye problems. Strabismus is the commonest cause of one-eye blindness in children—blindness which usually can be prevented.

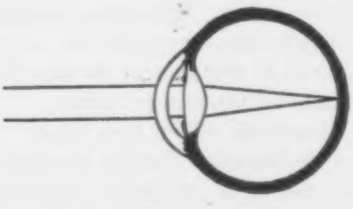
Refractive Errors

Eye defects which cause images to be focused improperly on the retina are called refractive errors. They include hyperopia, myopia, and astigmatism and are primarily the result of developmental processes affecting the length or shape of the eyeball, although disease may be a factor. There is no evidence that poor illumination or misuse of the eyes causes refractive errors.

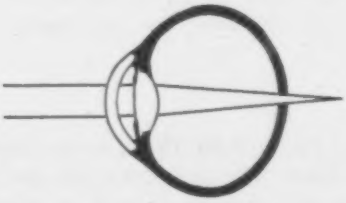
Statistical data available on the incidence and prevalence of eye defects and disease vary from study to study, depending on the testing standards and methods used, the criteria established for referral, and the training and competency of persons doing the testing. There is general agreement, however, that eye problems increase from approximately 15 percent at 6 years of age to about 32 percent at 14 years of age. Eye problems are so common and so important that procedures for their identification should be developed in every school.

Parenthetically, all children should have complete eye examinations during the preschool years. These will discover those conditions that, unless treated before the age of 6 or 7, may lead to loss of vision, i.e., "lazy eye" blindness or amblyopia ex anopsia (dimness of vision from nonuse).

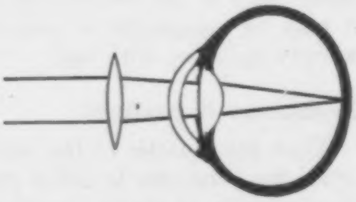
Hyperopia, commonly referred to as farsightedness, is usually a result of the eyeball being shorter than normal from front to back with the result that rays of light from distant objects focus toward a point behind the retina. On the other hand, myopia, or nearsightedness, occurs usually when the eyeball is longer than normal and rays of light come to a focus in front of the retina. Astigmatism, which might be described as "distorted sightedness," is caused



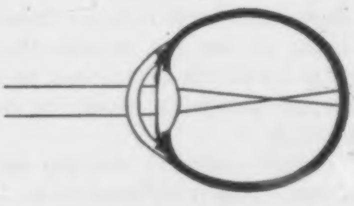
NORMAL EYE



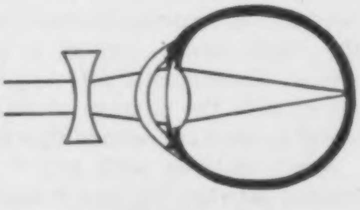
HYPEROPIC EYE



HYPEROPIC EYE
CORRECTED BY LENS



MYOPIC EYE



MYOPIC EYE
CORRECTED BY LENS

by an irregular curvature of the cornea or lens resulting in some rays of light coming to a focus on the retina whereas others may come together in front of or behind the retina. Astigmatism frequently coexists with hyperopia or myopia. In contrast to these conditions is the normal state in which rays of light from an object are focused properly on the retina.

Hyperopia exists in many young children, but in most instances this is merely a manifestation of their developmental level and is not necessarily an indication for the use of eyeglasses. The incidence decreases as children grow older. Hyperopia associated with symptoms of eye fatigue, headaches, nervousness, or aversion to close work is usually considered to require correction by glasses. It may be a cause of disturbance of binocular vision.

Myopia is usually classified under two types: simple (physiological variation) and pathologic. Simple myopia, which includes the great majority of cases, is optically "correctable" with prescribed glasses. It includes myopia of both moderate and severe degrees, the majority of cases being in the former category. Pathologic myopia is associated with disease affecting the various tissue coats of the eye, the underlying cause of which is unknown; it may be congenital or acquired. In children, the incidence of myopia increases with age.

Strabismus (Cross-Eye)

When the muscles of the two eyes fail to keep the eyes in alignment, the condition is called strabismus. The eyes may get out of alignment in as many directions as they can be moved, so there are many types of deviations. The most common is turning in toward the nose, cross-eye.

Of the approximately 1.5 percent of children with some type of strabismus, some will have had it since birth, usually due to inheritance of muscle abnormalities. Sometimes birth injuries damage the visual control centers in the brain or the eye muscles themselves. Since muscle defects present at birth will not correct themselves with the passage of time, an eye physician should be consulted as soon as the condition is observed.

Many children with hyperopia (farsightedness) develop strabismus between 2½ and 3 years of age. This is believed to be due to a combination of refractive errors, abnormality of eye muscles or their attachments, or dysfunction of the control center in the brain. To correct the condition it usually is necessary to treat all causes. Children who are not farsighted also may develop strabismus due to the last two causes. A marked difference in refractive error in the two eyes may cause strabismus. In a small percentage of children strabismus is due to brain tumor, an intraocular growth, or other disease of the eye or of the orbit.

Crossed eyes rarely if ever correct themselves. The cross-eyed child should receive medical attention as soon as the condition is noticed since delay may result in loss of vision in the crossed eye. The child deserves early diagnosis of the cause. Preservation of sight is as important as improvement in appearance. Treatment may include the prescription of medication, the prescription of suitable glasses, covering the better eye with a patch so that the "crossed" eye will be used, prescription of eye exercises, and surgery. Frequently a combination of these measures is necessary.

Within the school environment the cross-eyed child should be protected from the emotional damage that may result from the unkind comments of his classmates. Teasing, ridicule, and humiliation may produce emotional distress fully as serious as the physical condition. The understanding and sympathetic teacher can influence pupils' attitudes toward the child with strabismus.

Impaired Binocular Coordination

Some children who do not have a strabismus nevertheless have impaired binocular coordination, making it difficult for them to gaze from point to point efficiently or to carry on prolonged close work or prolonged chalkboard work. This condition is more complicated than "muscle imbalance," which is usually a physiological variable and may or may not contribute to impaired coordination.

Color Blindness

A small percentage of children is unable to distinguish colors accurately, a condition known as color blindness. This is an inherited condition in which parts of the retina are not sensitive to certain colors. Since there is no means of correcting the condition, those with this abnormality must learn to adjust to it. Children with this condition need to be aware of it when making vocational choices and when learning to drive automobiles. Both drivers and pedestrians need to distinguish red lights from green ones.

FINDING PUPILS WITH EYE PROBLEMS

To help identify pupils having eye problems, school programs rely primarily on two procedures: (a) observations and (b) screening tests. The latter include screening for impaired visual acuity, screening for color blindness, and sometimes screening for muscle balance. Both observations and screening tests are needed; each supplements the other.

What To Look For

Parents and teachers may observe a child's eyes and his behavior as he uses his eyes. Many alert and observant mothers seek medical care for preschool children whose eyes seem out of alignment, whose lids appear red or crusted, who squint when looking at distant objects, or who may stumble unduly.

The teacher may be more observant than many parents and may be more aware of signs that indicate eye problems or inadequacy of visual acuity Observation is particularly important because, in general, children do not complain of eye difficulties. They have no basis for knowing that they do not see as well as they should.

Even before a child begins to read, certain manifestations of visual difficulty may be observed, including—

Attempts to brush away blur
Blinking more than usual
Frequent rubbing of the eyes
Squinting when looking at distant objects
Frequent or continuous frowning
Stumbling over objects
Undue sensitivity to light
Red, encrusted, or swollen eyelids
Recurring styes
Inflamed or watery eyes
Crossed eyes, "wall" eye, or "wandering" eye (regardless of degree).

Soon after reading activities have begun, other signs and symptoms may become obvious, such as—

Holding a book too far away or too close to the face when reading
Inattention during reading periods, chalkboard, chart, or map work
Difficulty in reading or in other work requiring accurate use of the eyes
Inability or lack of desire to participate in games requiring accurate distance vision
Frequent complaints of headache associated with close work
Poor alignment in written work
Tilting head to one side or thrusting head forward when looking at near or distant objects
Irritability when doing close work
Shutting or covering one eye when reading.

Many children have eye defects that are more readily detected by observations than by commonly used screening tests. A hyperopic child, for example, may do well on a vision test, but he does so by excessive use of small muscles that regulate the thickness of the lens. His eyes may become fatigued easily and he may have intermittent periods in which the images he sees are blurred. Such a child frequently becomes cross and uninterested in school activities. The myopic child, on the other hand, usually shows no undue effects from reading because in such activity he uses the small internal muscles of his eyes less than his farsighted friend. However, chalkboard or other distant reading may cause him to lose interest because he does not see distant objects clearly. A child may have faulty binocular vision, yet pass muscle balance screening tests; but an observant teacher may note that he reads words out of order or in the wrong line or misses them or loses his place in reading.

Children with signs or symptoms of eye disorder should be referred for a complete eye examination. Children with such signs or symptoms need no screening tests.

Screening Tests for Visual Acuity

Many different vision screening tests are currently used in American schools. The choice for a particular community can best be made by a local joint committee composed of school medical advisors, nurses, and educators, with consultation from local eye specialists. Such a group should concern itself with follow-up procedures. In addition to its value in identifying pupils needing attention to their eyes, eye screening offers splendid opportunities for health education.

Tests for visual acuity may be administered as soon as a child can cooperate in a testing situation. Most children 3 years of age are able to respond accurately to symbols on a special Snellen chart (symbol E chart), if adequate preliminary preparation is given and if the examiner applies the principles of child psychology throughout the testing period. Ideally, all preschool children should have the benefit of a complete eye examination sometime prior to school entrance. Educational maladjustment and related psychological problems can be prevented when defects are found and corrected before the child enters school. Identification of the visually handicapped preschool child makes it possible to plan an educational program that will meet his particular need.

Since the eyes of children change as they grow and develop, screening tests should be given periodically to all school children except those known to be under the care of an eye specialist. Many schools conduct such screening tests annually, soon after the opening of school. If such a schedule is followed, most children with defects will be discovered before adverse effects have an opportunity to develop.

Who Gives Screening Tests?

Screening tests may be given by a teacher, a nurse, a trained technician, or a carefully selected and qualified volunteer. The important considerations are that the individual be prepared for his task, that he develop friendly relationships with pupils, and that he work under the general supervision of a medical advisor. Understanding of screening techniques and procedures is essential. Since screening tests are not designed to be diagnostic, it is unnecessary and undesirable to have them given by an eye specialist. The use of a specialist for this purpose would create the impression of a diagnostic examination. Moreover, it would be an unwise use of the time of such a person.

In many schools screening tests are given by teachers or by a teacher and nurse working together as a team. As he participates in vision screening, the teacher gains valuable information about his pupils' vision. This enables him to correlate the results of the screening tests with his observations and to participate effectively in the counseling program as it relates to helping pupils obtain needed treatment. The greater the teacher's understanding of a pupil's visual problem the more interested he will be in the follow-up program.

Preparing Pupils for Vision Screening

Previous to vision screening, pupils should be informed concerning the purposes of the test and the procedures to be followed, the exact method of preparation depending on their age. With young children, a demonstration of the test is appropriate. Older children may be interested in learning how the eyes function, the relationships between light and sight, or how lenses help to improve vision. At all ages attention should be given to pupils' questions and effort put forth to provide answers as complete as their maturity permits. Procedures of this nature help to integrate health education and health services.

Limitations of Screening

Emphasis must be placed on the fact that school eye tests are "screening" tests and are not intended to diagnose the nature of eye defects. They reveal that a child does not see well, but the presence or absence of eye disease or visual defect requiring correction cannot be determined entirely on the basis of screening tests. The young child may not do well on a test because he has not yet acquired the habit of focusing and fixing accurately. On the other hand, a child may read the small letters on a test chart but show in other ways that he is unable to maintain good vision for prolonged close work or for prolonged copying from the chalkboard.

One of the most significant facts to be picked up in the visual acuity test is the presence of a difference in acuity between the two eyes. Strabismus often is the cause of this inequality, and the inequality sometimes leads to strabismus.

THE SNELLEN TEST

For many years the Snellen test has been used widely by physicians and has been the most frequently used screening test for vision in schools. It requires the reading of test objects (letters, numbers, or symbols) on a chart from a measured distance of 20 feet. The objects are of graduated sizes and the chart is constructed according to scientific optical principles. Each letter size is numbered to indicate the standard distance at which a person with normal visual acuity should be able to identify it. Hence, one is said to have "normal" central visual acuity for distance if he can read the 20-foot line from a distance of 20 feet. It should be remembered, however, that young children cannot always read the 20-foot line, even when their sight is normal for their stage of development.

For convenience, the results of the test are expressed as a fraction, the numerator indicating the distance of the child from the chart and the denominator the smallest line read correctly. However, this is not a true fraction and cannot be interpreted to indicate the percentage of visual efficiency. For example, 20/30 indicates only that the 30-foot line is the smallest line read correctly at a distance of 20 feet. It actually represents 91.5 percent of visual efficiency. Generally, 20/20 is considered "normal vision." Those with a visual acuity of 20/15 would have an unusually high degree of visual acuity; those with acuity of 20/30, 20/40, or less have below what is average normal acuity of vision.

Without exception, all the multiple-testing devices available for screening incorporate the Snellen test, modified when required by the optical characteristics of the instrument.

The Snellen test has several distinct advantages for use in schools; it is inexpensive, requires no special electrical apparatus (although the amount of light on the chart should be controlled), is easy to administer, and takes an average of only about 1 minute per child. If the Snellen screening test is combined with careful parent and teacher observations, the majority of children who need to be referred for an eye examination will be identified.

The Snellen test can be administered by a person without medical or nursing training, but for accurate results there must be proper equipment and preparation, testing procedures must be standardized, and results must be carefully evaluated.

Preparation for Administering the Snellen Test

The Snellen chart must meet standard specifications concerning the size and spacing of letters or symbols. Checking these standards is a technical task which can be avoided by purchasing charts from reliable sources.[1] Two types of charts are commonly used, one with letters and the other with the symbol E in various positions. The latter may be used with children from about 3 years of age and up; the former, with children old enough to read letters easily.

For use in covering parts of the chart not being used, two pieces of cardboard are needed. One 9" x 11½" is used to cover the upper half of the chart, leaving the 50-, 40-, 30-, and 20-foot lines exposed. A smaller card, 9" x 3¼", can be clipped on the chart to cover the section below the 20-foot line.

One window card, 11" x 14", with centered square hole 1¾" x 1¾" should be used to show a single letter through the hole as the test proceeds. The 1¾" x 1¾" sized hole permits this to be done for the 20/20 to 20/70-foot lines. The card should be held vertically for the 70-foot line; horizontally for the others. Results are more reliable when the child sees only one letter at a time.

When the symbol E chart is to be used with small children, the teacher or other tester should have two large E's mounted on either side of a cardboard, with the shafts pointing in the same direction. These are used to familiarize children with the various positions of the E and make it possible for the tester to check to see exactly how the child sees the symbol.

With equipment in readiness, attention should be given to other arrangements. Illumination on the chart should be 10 to 30 foot-candles, evenly diffused over the chart and with no glare. Amount of illumination may be checked through use of a light meter.[2] General illumination should be not less than one-fifth of the chart illumination, and there should be no bright light in the child's field of vision. In order to gain the child's complete confidence and co-operation, the test must be given in a quiet room and with a reasonable degree of privacy. The tester should be friendly and patient.

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[1] Equipment may be obtained from the National Society for the Prevention of Blindness, 16 East 40th Street, New York, New York, 10016. A Snellen chart with built-in illumination may be obtained from Goodlite Company, 7426 Madison Street, Forest Park, Illinois.

[2] A light meter may be purchased or obtained from a local health department or light company.

The chart should be hung with the 20-foot line at average eye height, and a line marked 20 feet away. Children may stand or sit when being tested. If standing, their heels should touch the 20-foot line; if seated, the back legs of the chair should touch the line.

The Testing Procedure

For valid results children must be at ease and encouraged to do the best they can. Children being tested for the first time with the E chart need to be taught how to indicate the direction of the shafts of this symbol in its different positions.

Both eyes should be open during the test, the eye not being tested covered with a small card or folded paper resting obliquely across the nose. For reasons of sanitation and aesthetics each child should have his own individual card or paper.

A standardized routine avoids confusion and facilitates recording. The following procedures are recommended: (a) If a child wears glasses, test him with his glasses. (b) Test the right eye first, then the left. (c) Begin with the 30-foot line and follow with the 20-foot line. (Some testers prefer to begin with the 40-foot line.) It is not necessary to test below the 20-foot line. If a child is suspected of having low vision, or if he fails the 30-foot line, start with the 20-foot line. (d) Keep unused parts of the chart covered, using the window card to expose single letters. This improves concentration and prevents memorization. (e) Move promptly and rhythmically from one symbol to another at a speed with which the child can keep pace. (f) Consider that a child sees a line satisfactorily if he reads correctly three out of four symbols. (g) Record results immediately in fraction form, the numerator representing distance from the chart (20 feet) and the denominator representing the lowest line read accurately.

While testing, note if the child strains to see. Evidence of this includes tilting the head, watering of the eyes, excessive blinking, thrusting the head forward, frowning or scowling, squinting, or closing one or both eyes. Observations of this nature should be recorded and the child referred for examination.

Selecting Pupils To Be Referred for Eye Examination

With the test completed and results recorded, the next step is the selection of pupils for whom an eye examination is to be recommended. All children who have exhibited signs or symptoms of eye disease or defect should be referred; testing is not required. Children failing the screening test should be retested before recommendations are made for referral. When this is done, parents should be urged to secure eye examinations for children who are in the following categories: (a) those who consistently exhibit symptoms of visual disturbance, regardless of the results of the Snellen test or other tests, (b) older children (8 years and older) who have a visual acuity of 20/30 or less in either eye, with or without symptoms, and (c) younger children (7 years of age or less) who have a visual acuity of 20/40 or less in either eye, with or without symptoms.

OTHER TESTING PROCEDURES

Additional procedures for testing various visual functions exist, some of which may appropriately supplement the Snellen test.

Convex Lens Test

Screening for farsightedness (which may produce ocular discomfort without impairing acuity) sometimes is accomplished through use of convex lenses. With suitable convex lenses[3] in a testing frame, a pupil is asked to read the 20-foot line of a Snellen chart with both eyes open and uncovered. If he *can* do this he *fails* the test, for with the lens in front of his eye he should not be able to see the 20-foot line clearly. The strength of the lens used is a matter to be determined by the physician recommending the test. Ability to read the 20-foot line indicates a degree of farsightedness at least equal to the strength of the lens. The test is done only on those who pass the Snellen test for acuity of vision. Since this is a screening test, failure means that a child needs a complete eye examination and not that he necessarily requires glasses.

Tests for Muscle Balance

There is at present no satisfactory screening test for impaired binocular coordination.

Virtually all individuals, with or without symptoms and with or without impaired binocular coordination, have "muscle imbalance"

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[3] Convex sphere test lenses are available through local opticians or from Goodlite Company, 7426 Madison Street, Forest Park, Illinois.

(lateral heterophoria).[4] It is a physiological variable following a bell curve. Attempts have been made to find children with impaired binocular coordination by "muscle imbalance" screening tests designed to select those at the ends of the curve. Binocular coordination is dependent not on the amount of muscle imbalance alone but on other factors which are identified at clinical examination but are not subject to screening techniques. Near-vision tests of muscle balance represent the end result of many factors, making clinical interpretation necessary, so that near-vision muscle balance tests are unsuitable for screening.

Even in distance vision, screening by degree of "muscle imbalance" will yield many false positives who have no abnormal condition and pass as negative an appreciable percentage of those who actually have impairment of binocular vision.

Vertical heterophoria (tendency of the eyes not to remain on the same level), on the other hand, is abnormal, and the screening tests for it reliable; but the condition is not common. With respect to *lateral* heterophoria, however, the tests do not clearly differentiate between significant eye problems and physiological variables that do not require treatment. Hence the value of all subjective "muscle balance" tests in screening is limited. They should never be used on children who fail the Snellen (visual acuity) test or the convex lens test or who have been observed to have signs or symptoms. All these children have been identified as in need of eye examinations and therefore do not require further screening.

As a matter of fact, children with disturbance of binocular vision have such a high frequency of reduced visual acuity, hyperopia, and eye signs or symptoms that the application of these criteria alone is a useful means of screening for impaired binocular coordination.

Certain muscle balance tests are subjective tests presenting to right and left eyes dissimilar targets seen simultaneously. One of these is a "Maddox rod test." When a light is viewed through a type of lens known as a Maddox rod, it is seen as a streak of light, the direction of which is determined by the rods of the lens. The Maddox rod lens is conveniently used in an ingenious way in the Massachusetts Vision Test. (See page 84.) Another dissimilar target test employs spectacles with a red lens before one eye, a green lens before the other, and two targets, one red and one green. Such a test has been incorporated in the Atlantic City Vision Test. (See below.) Stereoscopic instruments use two dissimilar targets, one of which is visible to each eye.

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[4] A comprehensive discussion of heterophoria and binocular vision is contained in "Identification of School Children Requiring Eye Care," published by the National Medical Foundation for Eye Care, 1100 Seventeenth St., N.W., Washington, D.C. Single copy available on request.

The Massachusetts Vision Test

A screening device developed under the auspices of the Massachusetts Department of Health and, therefore, called the Massachusetts Vision Test is designed to apply the Snellen visual acuity test, the convex lens test, and the Maddox rod test for muscle imbalance; illumination is built in for the Snellen chart.[5] Successive tests should be done only on those who have passed the preceding tests.

In the Massachusetts test two pairs of spectacles are used, each with a Maddox rod for the right eye. One produces a horizontal streak, the other a vertical one. A light is placed in a small opening corresponding to the window of a house drawn on a chart. The house conforms to a definite scale so that if the streak is seen outside a specified area it indicates a selected degree of muscle imbalance. The test is made at a distance of 20 feet. Successive tests should be done only on those who pass the preceding tests.

Atlantic City Vision Test

The Atlantic City Vision Test equipment was developed in and for the use of the city's school system.[6] It incorporates (a) the central visual acuity (Snellen) test; (b) the convex lens test; and (c) a test at distance only for vertical and horizontal muscle imbalance, employing red-green spectacles and red-green target, one a small spot, the other a rectangle. In the latter test, a person with normal muscle balance sees the spot inside the rectangle. Vertical and horizontal balance are simultaneously screened by one test. Illumination is built in for the Snellen chart. Successive tests should be done only on those who pass the preceding tests.

Stereoscopic Screening Devices

Stereoscopic devices for eye screening purposes are available.[7]

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[5] The Massachusetts Vision Test equipment may be obtained from American Optical Company (Southbridge, Massachusetts) and Welch-Allyn Company (Skaneateles Falls, New York).

[6] Atlantic City Vision Test may be obtained from Freund Brothers, Atlantic City, New Jersey.

[7] Stereoscopic school screening instruments are available as follows: "School Vision Tester" from Titmus Optical Company, Petersburg, Virginia; "New York School Vision Test" from Bausch and Lomb Optical Company, Rochester, New York; and "Telebinocular School Vision Test" from Keystone View Company, Meadville, Pennsylvania. A stereoscopic screening instrument is also available from American Optical Company, Southbridge, Massachusetts.

All employ test targets viewed through a binocular device designed to test central visual acuity, muscle balance, and color vision; some devices include a convex lens test. A number of these instruments are furnished with tests of other components of binocular vision.

Opinions vary as to the value of these instruments in schools. Some eye physicians consider their use for screening acceptable provided the tests selected for use are only those based on the physiological principles of the central acuity (Snellen) test, the convex lens test, and (subject to the limitations previously noted for them) the distant muscle imbalance tests. Decisions concerning their use must include consideration of cost and the possibility that they may not clearly differentiate between significant eye problems and minor deviations and physiological variables that do not require treatment. In any case, a local committee should exercise discretion in the selection of tests and establishment of standards regardless of what tests are provided by the manufacturer.

Testing Ability To Identify Colors

Since normal color vision is needed in certain occupations, it is desirable to test pupils' ability to distinguish colors before entrance to the junior high school grades, a time when vocational choices frequently are considered.

Two color vision tests satisfactory for school use are the Hardy-Rand-Ritter Test (American Optical Company, Southbridge, Massachusetts) and the Ishihara Test (Takamine Overseas Corporation, 10 East 40th Street, New York, New York). Color tests need to be given with natural daylight illumination, but not direct sunlight. Directions accompanying test materials should be followed carefully; otherwise the results are not reliable. Tests do not need to be repeated because ability to identify colors does not change.

EFFECTIVENESS OF VARIOUS SCREENING PROCEDURES

What tests can be used most effectively for screening children for vision defects? Who can give these tests most successfully? How do the various tests compare in identifying pupils who need to be referred for eye care? Answers to these questions are of basic importance to those who have responsibility for school health services.

Help has been provided by a comprehensive study conducted in the St. Louis schools by the National Society for the Prevention of Blindness, the U. S. Children's Bureau, the Division of Health of the state of Missouri, the St. Louis Board of Education, the Department of Ophthalmology of Washington University School of Medicine, and the Office of Naval Research.[8] Among other findings, the study showed that no screening procedure can identify visual defects as effectively as an ophthalmological examination and that, in general, the greater the number of correct referrals from a screening test, the greater the number of incorrect referrals.

With our present knowledge and the advances expected, it would be well for those responsible or concerned with appraising the visual status of school children to seek the latest information from those private, professional, and governmental agencies that have been charged with or have accepted responsibilities in the field of prevention of blindness and sight conservation. What is best in one school situation may not be best in another.

SOME SPECIAL PROBLEMS

As with other aspects of health appraisal, the identification of vision problems through observations, screening tests, and examinations by a specialist is of limited value if provision is not made for effective counseling and follow-up. In general, these procedures will be the same for all types of health problems and are described in a later chapter (Chapter 6, "Health Counseling"). They involve encouraging parents to obtain needed care for their children and providing appropriate educational adaptations. In the area of eye health, however, there are certain peculiar problems. These relate to the various types of services available to the public, the nature of an eye examination, and the relationships between light and sight and between eye problems and reading disability.

Obtaining Eye Care

Since one goal of follow-up is to help pupils secure a complete diagnostic examination by a qualified person, it is essential that all concerned with eye problems be familiar with the different kinds of persons who may be involved. They are defined as follows:[9]

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[8] Crane, Marian M., M.D., and others. "Study of Procedures Used for Screening Elementary School Children for Visual Defects." *American Journal of Public Health* 42: 1430-39; November 1952.

[9] These definitions are from Health Information Series, No. 64, U. S. Department of Health, Education, and Welfare.

An *ophthalmologist* or *oculist* is a physician—an M.D.—who specializes in diagnosis and treatment of defects and diseases of the eye, performing surgery when necessary or prescribing other types of treatment, including glasses.

An *optometrist*, a licensed, nonmedical practitioner, measures refractive errors—that is, irregularities in the size or shape of the eyeball or surface of the cornea—and eye muscle disturbances. In his treatment the optometrist uses glasses, prisms, and exercises only.

An *optician* grinds lenses, fits them into frames, and adjusts the frames to the wearer.

Children who show signs of eye difficulty or who fail to do well on screening tests should be urged to have a professional eye examination. It should be explained that observations or screening test failures merely suggest the presence of an eye problem. Whether a problem actually exists and whether it is an optical defect correctable by glasses or a more serious condition can be determined accurately only through a careful examination. Because of the popular misconception that glasses are the cure-all for eye difficulties, care should be taken by those making referrals not to imply that glasses are needed.

Nature of Eye Examinations

In contrast to a screening test, an examination by an eye physician is designed to study the functioning of all parts of the eye, to diagnose abnormal conditions, and to determine the procedures necessary to correct or alleviate them. In addition, an eye examination may furnish important clues to disturbances of general health.

A careful examination includes family and personal history of health and of eye difficulties, inspection of external and internal structures of the eyes and of surrounding tissues, and measurements of the various aspects of visual function. Various instruments are used in the examination of different parts of the eye.

The diagnosis of a refractive error is made in terms of the type and strength of lens required to neutralize the error and to permit sharp focusing of the image on the retina. To secure accurate measurement of refractive errors, it often is necessary to instill a drug called a cycloplegic, the use of which is limited to the ophthalmologist. This dilates the pupil and relaxes the muscles that regulate the shape of the lens. Use of this type of drug is particularly important in determining the extent of refractive errors in young people and is virtually always required when strabismus is present. A dilated pupil is essential when a complete examination of the eye is to be done.

Muscle balance may be tested in various ways. Tests are also made of fusion, the ability to integrate the images from both eyes, and sometimes of depth perception and color vision. When the need is indicated, the fields of vision (side vision) may be measured with an instrument called a perimeter or with a tangent screen.

Light and Sight

Seeing is an extremely complicated process involving coordination of factors which have their origin in two sources: (a) those within the individual—the eyes through which to see and the brain to interpret the messages sent to it from the outside world through the eyes—and (b) those in the environment—the light by which to see and the object to be seen.

It is difficult for even normal, healthy eyes to work comfortably and efficiently in the presence of glare or in the absence of sufficient well-diffused, well-directed, and well-distributed illumination. (For recommendations on School Lighting, see Chapter 12, "Services Related to Environmental Sanitation.")

Light-colored, pastel walls and woodwork, white ceilings, gray-green chalkboards, blond furniture and natural wood floors, all free of shine or gloss, will help to provide reflected light of acceptable quality and also contribute to the cheerfulness of the classroom environment.

Eye Problems and Reading Disability

It is estimated that at least 15 percent of the school population of the United States has some degree of reading disability. In some cases this is due to eye defect or disorder, but many other factors must be considered. Parents of children who do not read well should secure an eye examination for them to rule out ocular causes of reading difficulty. Factors related to reading difficulties include intelligence, general health, emotional problems, lack of motivation, brain damage around the time of birth, poor hearing, and impaired vision. Correction of reading disability can best be planned after a complete appraisal of a child and his problem, including attention to physical, emotional, educational, and sociologic factors. Poor reading due to visual difficulties may be a result of optical defects, faulty binocular vision, or disease of any part of the visual system from the eye to the brain.

In a study by Park[10] at the Dyslexia Memorial Institute, about four times as many boys as girls had dyslexia (reading disability) and 19 percent of those with dyslexia showed visual defects sufficient to require treatment; there were twice as many with hyperopia as myopia.

When reading difficulties are caused by errors of refraction or other eye abnormalities, eye examination and treatment are first requirements, to be followed by remedial education. The latter may involve a change in teaching method, correction of poor reading habits, provision of material in clear type, and good lighting conditions. If necessary, mechanical devices may be used to accelerate the speed of slow readers or to improve eye movements. It is far more important, however, to *prevent* reading disabilities by a thorough eye and general medical examination before reading is undertaken and by an understanding of the various factors of reading readiness.

Classroom furniture should be so adjusted to individual children as to facilitate good posture and to make easy the selection of proper working distances. Since the child is not usually the best judge of proper reading distances (about 14 inches), he should be taught proper habits of eye uses. Teachers who are unaware of the necessity for developing such habits may tend to limit their attention to subject matter or to some particular skill they are emphasizing, and thus fail to encourage the health habits which should be developed during reading. Children's eyes are precious. Attention to classroom lighting and safety precautions combined with observations and screening tests to discover early signs and symptoms of disease, defect, or disorder, followed by counseling directed toward seeing that pupils obtain needed treatment, can do much to safeguard eyes and to help children maintain good eye health and good vision.

FOR FURTHER READING

ADLER, FRANCIS H. *Textbook of Ophthalmology.* Seventh edition. Philadelphia: W. B. Saunders Co., 1962. 560 pp.

AMERICAN SCHOOL HEALTH ASSOCIATION, EYE HEALTH COMMITTEE. *Teaching About Vision.* New York: National Society for the Prevention of Blindness, 1961. 20 pp.

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[10] Park, George E., M.D. "Causes and Symptoms of Dyslexia." *Archives of Pediatrics* 66: 289-300; July 1949; and "Medical Aspects of Reading Failures in Intelligent Children." *Sight-Saving Review* 29, No. 4; Winter 1959.

NATIONAL MEDICAL FOUNDATION FOR EYE CARE. *Identification of School Children Requiring Eye Care.* New York: the Foundation, 1959. 36 pp.

PERERA, CHARLES A. *May's Manual of the Diseases of the Eye.* Twenty-second edition. Baltimore: William and Wilkins, 1957. 518 pp.

VAIL, DERRICK. *The Truth About Your Eyes.* Second edition. New York: Farrar, Strauss and Co., 1959. 180 pp.

The following agencies have publications bearing on the subject matter of this chapter:

AMERICAN MEDICAL ASSOCIATION, 535 North Dearborn St., Chicago, Illinois, 60610

AMERICAN PUBLIC HEALTH ASSOCIATION, 1790 Broadway, New York, New York, 10019

NATIONAL MEDICAL FOUNDATION FOR EYE CARE, 1100 Seventeenth St., N.W., Washington, D.C., 20036

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, 16 East 40th Street, New York, New York, 10016

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, OFFICE OF EDUCATION, Washington, D.C., 20025

Chapter 5

Hearing Impairment and Hearing Testing

School health services should include efforts to help pupils maintain good hearing, to identify those who have hearing difficulties, and to help those with hearing problems obtain the help they need.

Many diverse procedures may be used by schools to conserve the hearing acuity of children and youth. Teachers may carefully observe the hearing of those under their supervision, and screening tests of auditory acuity may be conducted at regular intervals. Through health counseling, parents may be urged to take pupils with apparent or suspected ear disease or hearing difficulty to a physician for diagnostic examination and needed treatment. In some instances special programs of education need to be provided. All these precedures should be coordinated with other community activities related to identifying and helping individuals who are hard of hearing or deaf.

Have you ever viewed television when the sound portion of the program was temporarily lost? The entertainment loses a great deal of its significance and may become almost meaningless, for both sight and hearing are needed for its full enjoyment. Similarly, a child gains perception of the outside world through combination of impressions received from various sense organs. Hearing is essential for a balanced concept of the environment, for full benefits from school activities, for a reasonable understanding of the reactions of playmates and classmates, and even for physical safety.

Childhood is a time of gradual adjustment to a complex world. When hearing is absent or impaired, the picture of that world is incomplete or distorted, and zest for living may be decreased. Learning to read and spell is hard enough for a normal-hearing child who can discover the various links between an object, its spoken name, and the graphic symbols that finally represent it; but to the hearing-impaired child these connections are confused or nonexistent. His rate of learning may be slowed, and his speech development may be retarded or entirely lacking. Inability to hear exclamations and to

strict of Columbia Health Department

detect modulations of the voice makes the communication of emotions difficult and often retards emotional growth.

HEARING IMPAIRMENT

Most children hear well. They are ordinarily equipped at birth with the anatomical parts for receiving sound waves, transposing them into nerve impulses, and conducting them to the receiving centers of the brain. In certain instances, however, parts of the hearing apparatus are malformed or become damaged by disease or accident, and hearing impairment results.

Hearing impairment may be congenital or acquired, may range from mild to profound in degree, and may be caused by malfunctioning of the outer, middle, or inner ear, or in some cases by involvement of the nerve that connects the inner ear with the brain. It is convenient to divide hearing impairment into two main types: (a) conductive impairment, when the difficulty lies in either the outer or the middle ear, and (b) sensorineural impairment, when the inner ear or the nerve of hearing (auditory nerve) is involved. Sometimes both conductive and sensorineural impairment are present, in which case the impairment is referred to as being "mixed."

Outer Ear Problems

Hearing impairment stemming from outer ear involvement is rare and, with the exception of a congenital closure of the ear canals usually associated with other congenital malformations, is temporary. The commonest cause of conductive impairment due to involvement of the outer ear is an accumulation of wax that blocks the canal, thus preventing sound waves from reaching the eardrum membrane. Some people produce more wax than others and require periodic removal of the excess wax. It is dangerous for a person to attempt to remove the wax himself or for parents to probe into their children's ears, since the skin lining the canal may be lacerated or the eardrum may be damaged or perforated. The removal of wax should be accomplished only by the physician. In addition to wax, other substances may cause blockage of the ear canal. Some children are prone to stuff objects into their ears, such as peas, beans, and pebbles. As in the case of wax, the removal of such objects should be left to the physician. Of course prevention is the better part of discretion, and children should be taught to keep all objects small enough to penetrate the ear canal away from the ear.

Middle Ear Disease

By far the majority of cases of hearing impairment in children of school age are associated with an involvement of the middle ear—that portion of the hearing mechanism lying between the eardrum membrane and the bony wall encasing the inner ear. The middle ear is connected with the nasal cavity by the Eustachian tube, which serves as a pressure-equalizing device so that the pressure on both sides of the eardrum membrane will be the same, but which also provides a convenient pathway for infection from the nose and throat to reach the middle ear. Sound vibrations are transmitted across the middle ear by a bridge of tiny bones—the hammer, anvil, and stirrup—known as the ossicles, or the ossicular chain. The ossicles connect the eardrum membrane with a "window" in the bony wall of the inner ear. For vibrations to be transmitted efficiently to the nerve receptors in the inner ear, the ear drum membrane and ossicular chain must be freely movable. Fluid in the middle ear cavity or adhesions on the ossicles will impede the transmission of vibrations to the inner ear and thus result in some hearing loss.

Middle ear disease, otitis media, may result from an upper respiratory infection, such as measles, mumps, or even a common cold, which reaches the middle ear through the Eustachian tube. Improper nose-blowing (pinching the nostrils while blowing or blowing too forcibly) often contributes to the transplantation of infection from the nasal passages to the ear. When infection does reach the middle ear, the cavity becomes filled with infectious matter that then exerts pressure on the eardrum membrane, forcing it to bow outward. When the pressure becomes sufficient to overcome the tensile strength of the drum membrane, the membrane ruptures, releasing the infectious matter into the ear canal. Unfortunately, such a rupture may produce a perforation of the drum membrane so large that it will not heal, thus causing some permanent hearing loss and posing a threat to the middle ear of infection from the outside. When there is danger of spontaneous rupture of the drum membrane because of increased pressure from within the middle ear, the physician prefers to lance the membrane to provide release of the pressure and drainage. A surgical incision in the membrane will heal rapidly with a minimum of scar tissue, so that no permanent damage is done to the hearing.

Before the days of antibiotics, it was common for an ear infection to spread to the air cells of the mastoid bone and produce a condition called mastoiditis. Since the infection could then spread through the bone and reach the brain, mastoiditis was a dangerous complication of otitis media and sometimes a cause of death. Fortunately, modern drugs can control infections so that it is rare today to hear of anyone dying from mastoiditis. Whenever a child complains of an earache, prompt medical attention is indicated so that any infection that may be present can be controlled before it causes dangerous complications or produces permanent damage to the middle ear. In every case of an upper respiratory infection, the possibility of otitis media must be kept in mind.

Another type of otitis media results from the improper functioning of the Eustachian tube. Swollen tissues around the opening of the tube in the nasal passage or the presence of adenoid tissue can prevent the Eustachian tube from performing its function of ventilating the middle ear. When the air that is present in the middle ear has been absorbed, the pressure in the middle ear becomes negative in relation to the outside pressure. As a result, the eardrum membrane is drawn inward and the efficiency of the sound-conducting mechanism is impaired. The negative pressure in the middle ear may force the exudation of serum from the tissue lining the middle ear and the Eustachian tube, so that the middle ear cavity becomes partially or completely filled with fluid. If this fluid is permitted to remain in the middle ear, it gradually becomes thickened and gluelike, so that further impairment of the efficiency of the sound-conducting mechanism results. While a drum-retracted type of otitis media does not pose a threat to life, such as is potentially present in infectious conditions, it does constitute a common cause of conductive hearing impairment, particularly in children. It is important, therefore, that the patency of the Eustachian tube be maintained. Swelling of the tissues of the nasal passages associated with a cold or with an allergic condition should be controlled with medication. Excessive adenoid tissue should be surgically removed. In some cases it may be necessary to evacuate the fluid or gluey matter from the middle ear by incising the eardrum membrane and using suction. When one experiences discomfort and a feeling of blockage of the ears while flying or even while driving in hilly or mountainous country, the Eustachian tube is not functioning properly; if the discomfort and feeling of blockage persist, one should seek medical attention.

Even when permanent damage has occurred to parts of the sound-conducting mechanism from infections or adhesions, it is possible in many cases to restore the hearing to within normal limits through techniques of plastic surgery within the middle ear or on the eardrum membrane. Conductive hearing impairments need not produce permanent hearing loss if proper medical care is obtained. Since prompt attention can prevent serious hearing problems or dangerous complications, it is important not to neglect any symptom of middle ear involvement, such as an earache, a feeling of "fullness" in the ears, or any reduction in hearing acuity.

Mention should be made of a special disease of the bony capsule of the inner ear that causes a progressive loss of hearing in those afflicted. In the disease called otosclerosis, thought to have an hereditary basis, a spongy type of bone grows around the window linking the middle and inner ears. This spongy bone causes a fixation of the stirrup bone so that it cannot transmit vibrations from the eardrum membrane and the other ossicles to the inner ear. Otosclerosis rarely becomes manifest until one is in his late teens or early twenties, although occasionally the condition is diagnosed in childhood. Fortunately, operative procedures have been developed to overcome the conductive blockage caused by otosclerosis, so all but a few of the individuals having this disease can have most if not all of their hearing restored through surgery.

Involvement of the Inner Ear or the Nerve of Hearing

Sensorineural hearing impairment results from an involvement of the inner ear or the nerve of hearing. Actually, the inner ear consists of two end organs encased within the same bony capsule and bathed in the same fluid: the end organ for the sensation of balance, called the vestibular mechanism, and the end organ for hearing, called the cochlea. Most congenital hearing problems result from damage to the cochlea. These may be on an hereditary basis, or they may be caused by infections incurred by the mother during the early weeks of pregnancy, for example, German measles (rubella). Many congenital losses of the sensorineural type are profound in extent, to the point of complete deafness. Frequently both balance and hearing will be affected.

Sensorineural hearing impairment may be acquired at any time after birth, and the extent of the involvement may vary from mild to profound. Certain viral diseases, such as measles and mumps, can cause destruction of nerve tissue within the cochlea. Meningitis commonly causes profound hearing impairment. Vascular disturbances may produce hearing impairment by depriving the cochlea of oxygen. A skull fracture that extends through the area of the inner ear may produce deafness in one ear. The exposure to sudden loud noises can cause permanent damage to the hearing.

In many people the exposure over long periods of time to noise of moderate to high intensity will result in a progressive loss of hearing of the sensorineural type. Some lifesaving drugs have been found to have toxic effects on either one or both parts of the inner ear. Pressure on the nerve of hearing from a brain tumor will cause a sensorineural loss, usually in just one ear. In sensorineural hearing impairment the acuity for high pitches is frequently less than acuity for middle or low pitches.

A sensorineural impairment is not amenable to medical or surgical care. Once nerve tissue of the type found in the inner ear has been destroyed, it cannot regenerate. Sometimes medical care can prevent a further deterioration of the hearing, but it cannot restore what has already been lost. Fortunately, relatively few of the hearing problems found in children of school age are of the sensorineural type.

DISCOVERING HEARING DIFFICULTIES

Information about the hearing ability of pupils may be obtained in many different ways. Sometimes an understanding mother informs the teacher that a particular boy or girl does not hear well. Her physician may have desirably suggested that she give this information to school personnel. At other times, the teacher learns about pupils with hearing difficulties by observing their behavior in the classroom and noting their reactions to new situations. In most instances hearing impairments are identified by screening tests for auditory acuity, which are performed routinely in many school systems. Measurements of hearing acuity are made with an instrument called an audiometer.

Parent and Teacher Observation

Hearing impairment may be revealed by a child's appearance or behavior. A parent or teacher should suspect the presence of a hearing problem if a child presents one or more of the following conditions:

Failure to respond to conversation when head is turned away
Cocking the head to one side
Failure to follow directions
Frequent requests for repetition of a word or sound
Faulty pronunciation of common words
Speaking too softly, too loudly, or with an unusual voice quality
Difficulty in locating the source of sound
Unusual dependence on visual cues
Inattention, restlessness, aggressiveness, or apathy
Unexplained decrease in school achievement.

Many of the above manifestations of hearing impairment can represent other kinds of problems, of course; so such observations only arouse suspicions concerning a pupil's hearing. They indicate a need for further study, a hearing test, or a medical examination. The teacher's observations may go further, however. Intermittent periods of altered behavior, expecially if associated with respiratory infections or absence from school for illness, are significant. Earache, discharge from one or both ears, use of cotton in the ears, and persistent mouth breathing are positive signs of ear, nose, and throat difficulties.

Although observations of parents and teachers will identify many instances of ear disease and hearing disorder, they will not uncover all cases of impaired hearing. Moderate hearing impairment in both ears or severe impairment in one ear may be present without the parent, teacher, or pupil's suspecting that a problem exists. For this reason screening tests of hearing acuity are essential.

The Pure-Tone Audiometer

Individual tests with a pure-tone audiometer can be given to pupils of all school ages. They provide a simple, reliable, and effective means of screening children with hearing impairments from those with normal hearing.

The pure-tone audiometer is an instrument that produces tones of various frequencies (pitches) over a wide range of intensities (loudness). The frequencies range from an octave below middle "C" to five octaves above middle "C" in intervals of octaves and half-octaves. The intensities range from a level that is barely perceptible to the keenest ear to a level that is almost uncomfortably loud. Frequency is measured in units of cycles per second (cps), and the range of the audiometer is from 125 to 8,000 cps. Intensity is measured in logarithmic units called decibels (db). The range of intensity available for most frequencies is from −10 db (that is, 10 db better than the average normal ear's acuity) to +100 db in steps of 5 db. Zero db intensity at each frequency represents the intensity required for the average normal ear to detect the presence of a tone.

The pupil being tested hears the tones presented through earphones. The threshold of hearing at any frequency is the minimum intensity required of the individual to respond correctly to the presence or absence of the tone at least 50 percent of the time. Each ear is tested separately and its threshold at each of the test frequencies is graphed on a form called an audiogram. In addition to the controls for frequency and intensity, the audiometer contains an interrupter switch, which permits the tester to introduce or to interrupt the stimulus at will, as a check on the pupil's responses.

Screening with a Sweep Test

The audiometer may be used either as a screening device or as an instrument for measuring the threshold of hearing. When used for screening, the audiometer is set at a predetermined intensity level—10 or 15 db—and then various frequencies are presented to the subject. Because the tester can "sweep" through all of the frequencies in rapid order, this test is often called a sweep test. It is necessary for the tester to check the pupil's responses both for detecting the presence of the tone and for detecting when it is turned off by using the interrupter. Even so, a screening test can usually be performed on both ears in about 2 minutes.

The purpose of the screening test is to identify individuals whose hearing at one or more frequencies is outside the range of normal. If the testing environment is sufficiently quiet, a 10 db screening level should be employed; otherwise, a 15 db level is more appropriate. Room or outside noise interferes with hearing low frequencies. In a screening test there is no reason to test at 125 cps, and if noise is any problem, 250 cps can be omitted also. If a boy or girl consistently fails to hear 500 cps at the screening level employed while responding without difficulty to higher frequencies, it is likely that room or outside noise is interfering with the accuracy of the test. In most school hearing surveys, between 5 and 10 percent of the enrollment will fail to pass the screening test. If more than 10 percent fail, the tester should re-examine his technique, check the accuracy of calibration of the audiometer, or evaluate the possible effect of environmental noise on his test results.

Technique for Threshold Testing

Pupils who fail to respond to one or more frequencies in either ear in the screening test should be given a threshold test; that is, their thresholds at each of the test frequencies should be charted on an audiogram. If there is any difference in acuity between the ears, the better ear should be tested first. It is advisable to commence the test at the frequency of 1,000 cps, since research has demonstrated that the test-retest reliability of 1,000 cps is greater than at any other frequency. The pupil is instructed to raise his finger, to push a button that operates a signal light on the dial of the audiometer, or to say "yes" when he hears a tone, and to lower the finger, release the button, or say "no" when he realizes the tone is not audible. Naturally, the seating arrangement must be such that the student cannot see the audiometer dials or the manipulations of the tester. If there is a choice in the switching arrangement available on the audiometer, it is preferable that the tone be "off" except when the interrupter switch is depressed.

With the intensity control set at minimum intensity (−10 db), the tester depresses the interrupter switch and gradually increases the intensity until the individual signals that he hears the tone. It is advisable to increase the intensity another 10 db in order to give the subject a clear impression of the stimulus. Then, still keeping the interrupter depressed, the tester gradually decreases the intensity until the pupil signals that he no longer hears the tone. Immediately the tester increases the intensity until the child again responds. At this point the interrupter is released, making the tone immediately inaudible. The pupil should of course signal that he no longer hears the tone. With the tone off, the tester decreases the intensity by 10 db and then presents a spurt of 2 to 3 seconds' duration. If the student responds, the tester decreases the intensity by another 10 db and again presents a spurt of tone. If the pupil does not respond, the intensity is increased by 5 db and another spurt is presented. If still there is no response, another 5 db increase is made and another spurt is presented. When the child responds, the intensity is decreased by 10 db and the same procedure just described is repeated—that is, increases in intensity of 5 db are made until the pupil responds, at which time the intensity is lowered by 10 db and the process is repeated. The tester is searching for the minimum intensity level at which the individual responds correctly to the presence of the tone at least 50 percent of the time, when threshold is approached from inaudibility—that is, by an ascending technique. Several trials will be required before the tester is satisfied that the pupil is responding consistently. When threshold has been determined at 1,000 cps, the frequency selector is moved to 500 cps and the same process of threshold determination described for 1,000 cps is followed at 500 cps and all other frequencies to be tested.

After threshold has been measured at 500 cps, the frequency selector is moved to 250 cps, which is generally the lowest frequency that is tested. Then a repeat threshold measurement is made at 1,000 cps. The purpose of the second threshold measurement at 1,000 cps is to check on the reliability or consistency of the pupil's responses. If the second threshold at 1,000 cps is not within plus or minus 5 db of the first one, then the tester knows that the boy or girl being tested is not responding consistently, and the validity of the audiogram being obtained is suspect. After the second threshold determination at 1,000 cps, the frequencies higher than 1,000 cps are tested: 2,000, 4,000, 6,000, and perhaps 8,000 cps. If there is a marked difference in threshold between 1,000 and 2,000 cps or between 2,000 and 4,000 cps, it is advisable to test also at the intervening half-octave interval—1,500 or 3,000 cps.

After the audiogram for the first ear has been charted, the tone is switched to the other ear, and the same procedure is followed in obtaining threshold measurements at all of the test frequencies. It is possible that the tester will note differences in acuity between the two ears of 40 or more db at some or all frequencies. If such differences are noted, then the tester should be aware of the possibility that the pupil may be responding to the tone in his better ear, even though it is being presented only to the other ear. In other words, when the tone is made sufficiently intense, the ear *not* under test can respond, so that the acuity of the better ear interferes with the threshold determination of the poorer ear. When the difference in acuity between the ears appears to be of the order of from 40 to 60 db, the tester should suspect that he might be getting a "shadow" curve of the better ear's acuity instead of the true threshold responses of the poorer ear. He should repeat the threshold measurements of the poorer ear while putting a masking noise in the earphone covering the better ear. The audiometer is equipped with a masking noise and an intensity control for the noise. The child should be told that he will hear a steady noise in his better ear but that he should respond only when he hears one of the test tones. The masking noise is then switched on and the intensity is increased until it is maximum. Threshold determinations for the test tones in the poorer ear are then repeated. The tester may discover that when the better ear is masked, the poorer ear does not respond at even the maximum available intensity at some or all frequencies. Without having made use of the masking noise, the tester would have erred in recording the thresholds of the poorer ear. If the same threshold levels are measured with the masking noise as without it, then the comparison of results assures the tester that the true difference in acuity between the ears is only from 40 to 60 db.

Hearing Impairments Which Are Medically Significant

The purpose of the threshold test performed in a school hearing testing program is to determine whether or not a child who has not passed the screening test has sufficient hearing impairment to cause concern, that is, to make advisable a medical examination of his ears. There is no definite point at which a deviation from "normal" hearing should cause concern, but by agreement a loss in either ear of 20 db or more at two or more frequencies or a loss of 30 db or more at any single frequency is considered to be "medically significant." A child with a medically significant loss should have a medical examination of his ears to determine whether or not any medical or surgical care is indicated.

Many children will have "medically significant" hearing losses according to the above standards on the basis of a loss *only* at 4,000 cps. In such cases, a medical examination will rarely reveal any condition that is amenable to treatment. It is thought that a loss at only 4,000 cps may indicate a congenital defect perhaps on an hereditary basis, or it may represent the effect of an accumulation of insults from environmental noise on a cochlea that has an inherent weakness at the point where 4,000 cps is received. Whether or not such losses are static or progressive can be determined only after a subject has been followed with testing over a period of time—perhaps years. Because of the prevalence of 4,000 cps losses—most of them unexplainable—some physicians prefer to consider that a loss at only 4,000 cps does not constitute a medically significant loss. The most important frequencies on the audiogram are 500, 1,000, and 2,000 cps, since there is a high correlation between the average hearing level at these frequencies and an individual's ability to hear speech.

Other Screening Tests

In some school systems, the identification of individuals with hearing problems is accomplished through the use of group screening tests. As a matter of fact, the first school tests employed in this country were group tests conducted with a phonograph speech audiometer—the so-called fading numbers test. In recent years this test has not been used extensively because it was proved to be a relatively inaccurate means of identifying children with hearing impairments.

Some group tests utilizing pure-tone stimuli have been employed, for example, the Massachusetts group pure-tone test,[1] and the pulse-tone group pure-tone test.[2] With children of third-grade age or older these group tests are efficient, but with younger children it is necessary to use individual tests. The group test equipment is more expensive to procure and to maintain, and it is doubtful whether the time saved through screening as many as 30 or 40 children simultaneously is worth the additional expense and the bother of assembling and disassembling the equipment. The majority of hearing problems identified in a school hearing conservation program will be in kindergarten and the first three grades, where the usual group techniques are not suitable anyway.

The availability of various screening procedures points up the need to select the type of test which will be used in a particular school or school system. Whether the sweep test is to be used—the procedure generally preferred—or some other screening test should be determined locally. This should be done by interested school personnel with assistance from hearing specialists and representatives of the health department and local medical society. Consideration should be given to such factors as cost of equipment, personnel needed, time required for tests, and similar matters.

THE TESTING PROGRAM

Factors to be considered in formulating a testing program include (a) facilities, (b) the tester, (c) pupils to be tested, (d) the recording of results, and (e) follow-up procedures.

Facilities

Briefly, the requirements for the testing room are reasonable quietness and freedom from interruption. The room should be isolated from the disturbing sounds of music rooms, gymnasiums, restrooms, telephones, typewriters, and traffic noises. The room should be large enough to accommodate a table and chair for the tester, and three or four chairs for pupils—the one being tested and others waiting to be tested. A teacher or an older student must supervise the flow of children to and from the testing area.

In some states, mobile testing units are becoming popular. These are buses or trailers that have been specially constructed to provide isolation fom outside noises and arranged inside so that either individual or group testing may be performed. The advantages of the mobile unit are obvious: it provides a controlled testing environment; it can be parked in a quiet area on the school grounds provided only that electrical power is available; and it makes possible the conduct of a hearing survey without using classroom space or interfering with the normal activities that go on within the school.

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[1] Johnson, Philip W. "The Massachusetts Hearing Test." *Journal of the Acoustical Society of America* 20: 697-703; September 1948.

[2] Reger, Scott N., and Newby, Hayes A. "A Group Pure-Tone Hearing Test." *Journal of Speech Disorders* 12: 61-66; March 1947.

The Tester

The person who administers school hearing tests needs special training and may have to meet certification requirements imposed by state law. In some schools hearing surveys are the responsibility of the nursing staff; in others the testing is done by audiometric technicians. Some of the larger school districts employ audiologists on either a full-time or a consulting basis to supervise their hearing conservation programs. An audiometer is a tool which may be used skillfully or clumsily, depending on the ability and training of the tester. Threshold testing places more demands on the audiometrist than screening testing, but even screening requires a knowledge of audiometric technique, familiarity with the instrument one is using, and an ability to evaluate the results one obtains.

The audiometrist must be adept at handling children and perceptive enough to recognize when his test results are at variance with his observations of the pupil's behavior. Personal integrity and conscientiousness are necessary attributes of the audiometrist, since a great deal of the work is done without immediate supervision. The audiometrist must be able to maintain proper liaison with the medical and allied medical personnel in his community because the success of a school hearing conservation program depends on the cooperation of many people. And, finally, the audiometrist must be a person who has the ability to organize, that is, to develop and maintain schedules of testing and to keep proper records.

Pupils To Be Tested

Ideally, the hearing of all pupils should be checked annually by means of a screening test. Where it is economically impractical to perform annual tests of all pupils, it is best to concentrate on screening children in the lower elementary grades. For several reasons, the incidence of hearing impairment is greatest among the youngest children in school. The effectiveness of medical treatment depends to a considerable extent on the promptness with which hearing impairment is identified. Therefore, if it is impossible to screen all pupils, it is recommended that priority be given to kindergarteners and first, second, and third graders, and that older children be screened at least every third year.

All pupils who move into a school district during a year should be tested, and of course follow-up testing should be done of all children who are known from previous surveys to have hearing impairment. In addition, the audiometrist should test children who are suspected by teachers or parents of having difficulty in hearing or who have symptoms of ear disease.

Recording Results

Pupils' permanent cumulative health cards should contain a record of every screening test. In large schools the use of a rubber stamp indicating the type of test given and the date of the test simplifies recording data for those pupils with normal hearing. Detailed information concerning the final results of tests should be placed on the cards of pupils with hearing impairment.

The nurse, where available, will list pupils with hearing difficulties and initiate appropriate follow-up procedures.

Follow-Up Procedures

The identification of children with hearing impairment is but the first step in a hearing conservation program. It is useless to identify children with hearing problems unless something is done to meet the needs of these children. Two types of follow-up are required: medical and educational. When a child is discovered to have a medically significant hearing impairment, he should be referred for an ear, nose, and throat examination to determine if the hearing problem is remediable. Additional audiological procedures are required to determine if the hearing problem is conductive, sensorineural, or mixed in type.

The first responsibility of the school is to notify the pupil's parents of his hearing deficit and to suggest that he needs a diagnostic examination. Care must be taken not to cause undue concern on the part of the parents, particularly when the child's hearing impairment is only borderline. If the child's parents are unable to provide him with medical attention, it is usually possible to arrange for a diagnostic evaluation and any necessary treatment through the facilities of hospital clinics, health departments, or medical societies. It is the school's responsibility to furnish the examining physician with a report of the school testing results, and it is to be hoped that the physician will inform the school of the results of his examination and his suggestions for future care of the child. An effective medical follow-up requires close cooperation and good communication among the school, the parents, and the medical personnel involved in diagnosis and treatment.

A question sometimes arises as to whether or not, following treatment, the school should conduct additional audiometric tests to evaluate the effectiveness of treatment on the child's hearing impairment. Such follow-up testing is really a part of the treatment and should be the responsibility of the physician. In any event, however, the child who has been treated should be scheduled for a hearing test the following year, whether or not he is in the grade that is scheduled for routine screening that year.

The medical follow-up of a child with hearing impairment may include a determination as to whether or not a hearing aid is indicated. In many communities, there are available hearing and speech centers that offer special audiological diagnostic and rehabilitative services. Most such centers operate on a medical referral basis. Their special audiological evaluations assist the physician in arriving at the diagnosis of the hearing problem and in evaluating the results of treatment. The American Hearing Society compiles and distributes lists of hearing and speech centers in various parts of the country.

Hearing and speech centers can assist the schools in evaluating the hearing of children who are difficult to test with routine procedures or children whose school test results are at variance with their auditory behavior. In every school population there will be found some children who, often for no discoverable reason, will demonstrate "medically significant hearing losses" on the basis of the tests administered in school, when in fact their hearing is within normal limits. An examination at a hearing and speech center may be necessary in order to determine the child's true hearing ability.

In addition to the medical follow-up, a school system must provide for the special educational needs that hearing impairment imposes. The child who has a permanent, irremediable hearing problem should be evaluated to determine whether he requires any special educational procedures, such as instruction in lip reading, speech correction, auditory training, or psychological counseling. Special educational programs for children with hearing impairment will be discussed in Chapter 7, "Meeting the Needs of Exceptional Pupils."

A COMMUNITY PROBLEM

Every community should be conscious of the need for a hearing conservation program. Full responsibility should not rest upon any one organization, whether it be voluntary or official. Representatives from the schools, health department, medical society, community agencies concerned with hearing handicaps, and parents, working together, can ensure a broad attack on the problem and an integration of the contributions of each one.

Responsibility of the School

From the point of view of school health services, primary responsibilities are an awareness of the importance of early recognition of suspected hearing loss, especially in the primary grades; intelligent observation of pupils for signs indicative of hearing difficulty; organization and conduct of an audiometric screening survey; and a counseling and follow-up program to help children with hearing difficulties obtain diagnostic examinations, needed treatment, and such adaptations of their school program as their hearing condition dictates.

Help for the Parents

The need for helping parents of children with impaired hearing is gaining recognition. Many organizations are dedicated to meeting the needs of the hearing-handicapped and to bringing hope and happiness, based on acceptance of existing conditions, into many homes. The American Hearing Society and the Volta Bureau are two organizations that publish and distribute material of help to those with hearing impairment and their families. The American Academy of Ophthalmology and Otolaryngology, through its Committee on Hearing Conservation, has contributed greatly to all phases of hearing conservation. The American Speech and Hearing Association, the professional organization of audiologists and speech pathologists, maintains a registry of approved clinical programs in speech and hearing and certifies the clinical competence of individuals who provide professional services in this field.

Through community efforts in which the interest, knowledge, and skill of many individuals and groups are focused on the problems of the deaf and the hard-of-hearing, progress in hearing conservation will be continued and increased.

FOR FURTHER READING

AMERICAN PUBLIC HEALTH ASSOCIATION, COMMITTEE ON CHILD HEALTH. *Services for Children with Hearing Impairment.* New York: the Association, 1956. 124 pp.

AMERICAN SPEECH AND HEARING ASSOCIATION. "Identification Audiometry." *Journal of Speech and Hearing Disorders.* Monograph Supplement No. 9. Washington, D. C.: the Association, September 1961.

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH. *Hearing Testing of School Children and Guide for Hearing Conservation Programs.* Berkeley: the Department, 1962. 54 pp.

CANFIELD, NORTON. *Hearing, a Handbook for Laymen.* Garden City, N. Y.: Doubleday & Co., 1959. 214 pp.

DAVIS, HALLOWELL, AND SILVERMAN, S. RICHARD, editors. *Hearing and Deafness.* New York: Holt, Rinehart and Winston, 1960. 573 pp.

HELLER, MORRIS F.; ANDERMAN, BERNARD M.; AND SINGER, ELLIS E. *Functional Otology.* New York: Springer, 1955. 225 pp.

NEWBY, HAYES A. *Audiology—Principles and Practice.* New York: Appleton-Century-Crofts, 1958. 342 pp.

Chapter 6

Health Counseling

The follow-up of health conditions identified through school appraisal procedures is a most important aspect of school health services. Discovering that Mary is undernourished, that Joe has a withered right leg, John impaired hearing, and Sue a mouthful of bad teeth does not directly improve the health of these pupils. Only when they and their parents recognize the condition that needs attention and obtain necessary treatment is their health improved.

Health counseling, a procedure of prime importance in the follow-up program, is accomplished through face-to-face conferences between a physician, nurse, teacher, or other member of the school staff with individual pupils or parents. It is designed to interpret health problems and to encourage action which will lead to their solution.

Health counseling should be supplemented by concern for the adequacy of community treatment facilities for pupils from needy families. The maximum value of health appraisal and counseling cannot be obtained if pupils are unable to get the medical and dental treatment they need.

Follow-up procedures, including health counseling, are designed to achieve the following purposes:

1. To give pupils as much information about their health status, as revealed by health appraisal, as they can use to good advantage.
2. To interpret to parents the significance of health conditions and to encourage them to obtain needed care for their children.
3. To motivate pupils and their parents to seek needed treatment and to accept desirable modifications of their school programs.
4. To promote each pupil's acceptance of responsibility for his own health, in keeping with his stage of maturity.
5. To encourage pupils and their parents to utilize available resources for medical and dental care to the best possible advantage.

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6. To encourage, if necessary, the establishment or enlargement of treatment facilities for pupils from needy families.
7. To contribute to the health education of pupils and parents.
8. To obtain for exceptional pupils educational programs adapted to their individual needs and abilities.

Attainment of these goals will protect and improve pupil health.

NEEDS WHICH COUNSELING MAY SERVE

The health problems of children and youth are legion, ranging from minor discomforts to those which endanger life. Rather than attempting to discuss each defect and disorder that may occur, consideration will be given to a number of categories into which they may be grouped. These categories suggest the wide range of conditions with which counseling may be concerned. Children and youth may need (a) diagnostic examinations, (b) assistance in making desirable social and emotional adjustments, (c) advice on health practices and behavior, (d) medical or dental treatment, or (e) improved home care.

Securing Diagnostic Examinations

Appraisal procedures sometimes uncover conditions that indicate a need for diagnostic services. A blood count may seem advisable for a child suspected of being anemic; an x-ray or tuberculin test for one exposed to tuberculosis; an orthopedic examination for a crippled child; a more complete health study for a youth with vague complaints. Whether a pupil receives the diagnostic examination he needs frequently depends on the counseling he and his parents receive.

The health counselor helps parents recognize the need for special examinations and guides them to their physician or other resource for diagnostic examinations. As with other counseling, parents are encouraged to make their own decisions and to plan their own course of action.

Counseling of this nature is usually the responsibility of the physician and nurse, where they are available. But in some communities the teacher and school administrator are the only ones in a position to counsel parents. In such instances they need to be fully informed of resources for diagnostic procedures, the most important being the private physician and the hospital clinic. In many communities, however, special clinics for crippled children are conducted as part of the community health program.

Obtaining Treatment

Health appraisal procedures identify many pupils who need medical or dental treatment. Some of these will have such common defects as vision impairment, malnutrition, and tooth decay. Others will suffer from conditions like rheumatic fever, glandular disorder, emotional disturbance, epilepsy, and tuberculosis. In each instance the primary objective of health counseling is to get parents to take their offspring to a physician or, for dental problems, to a dentist.

Treatment ordinarily will be obtained from the family's private physician. As part of their educational efforts, school personnel should encourage parents to establish desirable relationships with a physician and to rely on him for help with all health problems. The family physician will, if necessary, refer the family to medical specialists or appropriate clinics. In some instances a family will have established relationships with a clinic and children will obtain needed treatment from that source.

Improving Home Care

Pupils who come from homes where parental support and help are lacking often come to the school's attention because of poor attendance, soiled or improper clothing, or personal uncleanliness. Sometimes the child will report that he has not had enough food or will make statements which indicate that his sleeping facilities are inadequate. A home visit by the nurse, social worker, attendance worker, or teacher may reveal a temporary cause, which can be corrected, or a cause which can be corrected by friendly, sympathetic discussion with the parent. In other instances, the situation may be one beyond the scope of school personnel, in which circumstance the family will be encouraged to seek assistance from an appropriate local agency. At the same time, school personnel will help a pupil find acceptance and encouragement in his school life.

In many communities a public health nurse may be the only health-oriented person assigned to assist the school with health and social problems. She usually will give high priority to the need of pupils having inadequate home conditions.

For most children whose families fail them the school is their next, and in some instances their only, hope for assistance. Where no social agencies are available locally, the teacher and administrator may confer with appropriate civic officials to determine how assistance can be provided. At times, a church group or civic organization will offer help. Assistance may also be provided by an appropriate state agency.

Problems of Emotional and Social Adjustment

Pupils needing help because of social and emotional problems range from those seriously disturbed and in need of treatment at a child guidance clinic to the forlorn first grader who is lonely and needs help in making friends. Great skill and expert training are required for counseling children with serious emotional problems. On the other hand, effective counseling by an understanding and sympathetic teacher or nurse can help pupils develop good emotional and social health. They can be helped to feel secure, to warrant the affection of others, to become recognized members of a group, and to achieve a degree of success. Just providing an opportunity to "talk out" their problems may have beneficial results.

Counseling for these purposes is not confined to arranged interviews but is frequently casual and incidental. Through an informal conversation a teacher may help a pupil to think through his problem or learn how to react to different situations and personalities. He may give the pupil a new "slant" on a subject that has been bothering him. The teacher's personality and day-by-day reaction to problems that arise in the classroom demonstrate to pupils either satisfactory or unsatisfactory patterns of dealing with situations.

Although teachers and other school personnel use educational procedures to help pupils with minor emotional and social problems, they should avoid any action bordering on medical treatment in dealing with such problems. Medical treatment is a responsibility of a licensed physician, and pupils with serious problems of adjustment should be referred to their physician. Psychiatrists, psychologists, and social workers are additional resources for helping children who have serious emotional problems. (See Chapter 9, "Mental Health Services.")

Advice on Health Practices and Behavior

Besides its contribution to the follow-up of problems uncovered by health appraisal, health counseling can be an effective method of health education. Teachers desirably use individual health counseling to augment group health teaching. Often such counseling relates to matters that have been discussed in a health lesson. For example, after a class has studied a unit on care of the teeth, the teacher may arrange individual conferences to encourage pupils to visit a dentist. At other times, the teacher may counsel individual pupils about the use of tissue to cover the nose and mouth when coughing or sneezing, the importance of washing the hands before eating, the need to remove heavy outdoor clothing while in a heated classroom, the proper use of a drinking fountain, and similar matters.

At the secondary school level pupils are likely to bring personal health problems to the teacher of a health class or to a physical education teacher. Problems may include what to do for epidermophytosis or acne, the attractiveness of a new hairdo for a particular girl, the desirability of bathing during menstrual periods, the effectiveness and safety of a fad diet, methods for avoiding boils, and how to act when with members of the opposite sex. At times problems relating to parent-pupil relationships will be brought to the teacher. In such instances the teacher should be careful to avoid discussion that might be interpreted as criticism of the home and should be as supporting as possible to the parents.

The teacher should recognize that an individual conference dealing with a pupil's problems is an ideal situation for education in problem solving as it relates to health. Pupils should be helped to find out what information they need to solve a problem and the sources of such information. The teacher can provide helpful information on many problems but should scrupulously avoid suggesting or even intimating that he can diagnose an abnormal condition or prescribe treatment for it. Pupils should learn that such help can be provided only by a physician.

COUNSELING PHILOSOPHY AND TECHNIQUES

The concept of health counseling has modified many of the traditional follow-up procedures of school health services. It has caused physicians, nurses, and teachers to recognize the limitation of formal, printed notices as a means of informing parents of health appraisal findings. Underlying health counseling are certain basic concepts relating to responsibilities for the health of children and youth and certain ideas concerning the best techniques for securing results.

Limitations of Form Notices

Traditionally, the results of medical examinations and other appraisal procedures have been reported to parents through printed forms which characteristically read something like this: "Dear . . .: An Examination of . . . . at school revealed a condition of the . . . . which should be investigated since it is likely to affect this pupil's health and his school work. We recommend that you consult your physician for diagnosis and for whatever treatment he recommends." The teacher or nurse fills in the blank spaces and asks the pupil to take the note home.

Such notices have serious limitations. They may not reach home, and if they do, they may not be read. When read, they may not be understood or they may be misinterpreted. A parent may consider the note faultfinding or an accusation that a child is being neglected. There may be justifiable resentment if the note refers to a condition about which the parent is aware and which is under treatment. Printed notices frequently are cold, formal, and impersonal and do not interpret or explain the importance of the conditions which cause them to be sent. In many instances they do not motivate parents to take action. When notices are used, these potential limitations must be considered. Written communications should be worded with careful attention to the way an individual parent will react to them. Whenever possible, they should be modified to meet the demands of a particular case.

A face-to-face conference between the parent and a teacher, principal, nurse, physician, or counselor is more effective than a written notice in securing needed action. This is the premise on which suggestions for health counseling are based. The mother, father, or guardian may be invited to the school, the preferable procedure; but if this is not possible, arrangements should be made for some person to visit the home. Conferences at school should be held in rooms that are attractive, afford privacy, and are equipped with comfortable furniture.

Role of the Counselor

In the early years of school health services individuals responsible for follow-up activities sometimes exhibited rather dictatorial attitudes toward parents. They told parents what to do and expected that parents would automatically act as advised. They were surprised at times when parents failed to accept advice and often they interpreted such action as indicative of parental indifference or neglect.

Rather than telling parents what to do, health counseling is an educational procedure to help parents think through their family health problems. It recognizes that parents, not the school or community, are primarily responsible for the care of children. Parents have the right to decide whether a child is to receive treatment and from whom such treatment is to be obtained, except in the rare circumstance of wilful neglect. The role of the health counselor is that of informing, interpreting, encouraging, supporting, and motivating, not of directing.

Although most parents are genuinely concerned about the health and welfare of their children and eager to do what will improve or protect their health, an occasional parent is neglectful. Such a parent may fail to obtain for a child the treatment that he needs, even though able to do so. In such instances the matter is one that should be referred to a child welfare agency or other community organization equipped to deal with child neglect.

The above step is rarely necessary. Parental neglect is the cause of only a few of the uncorrected defects found in children. The chief causes are failure to recognize that certain signs and symptoms indicate need for attention or lack of conviction on the part of parents as to the seriousness of the need. If parents are needy, they ordinarily will make use of community facilities that provide medical and dental care or other services for those unable to afford the services of a private practitioner. Health counseling acquaints the family, from their own points of view, with conditions requiring attention, interprets the reasons for needed care, and, when necessary, informs the parents of community services and health resources.

Steps in Counseling

In advance of a conference, the counselor, whether a physician, nurse, teacher, or other person, secures all information concerning the pupil that is available at the school. He reviews data on the pupil's health record and becomes familiar with the results of previous conferences that may have been held. He is prepared to consider and discuss all aspects of the child's school life, not just the condition for which the meeting was arranged. Expression of interest in all aspects of a pupil's life and particularly in all of his school experiences helps to develop rapport between the counselor and the parent.

Health counseling provides opportunity for application of the various steps used in problem solving. This can be illustrated by presenting the procedures which might be followed in talking with the mother of a third grade child whose vision, according to the Snellen test, seems below normal. A mother is used in this illustration because mothers of elementary school children usually assume responsibility for the care of children. In many instances it is desirable to counsel the child and the mother simultaneously, motivating the child to want care and motivating the parent to obtain care.

After rapport has been established through friendly conversation, the first step is to help the mother recognize and analyze the problem that exists. The mother is encouraged to state what observations she has made. This step helps the counselor gain a picture of the parent's attitude toward the child and his eye condition. The teacher's observations of the child's behavior in the classroom and his classroom achievement record may be presented, and then the results of the Snellen test. The mother may accept the fact that the child needs attention, or she may be unconvinced. In the latter case, the counselor may need to explain how the Snellen test is given, how other children perform on the test, and possibly demonstrate the testing procedure in the presence of the mother. Sometimes testing a pupil with normal vision may, through comparison, convince the mother that her child does not see well.

In carrying out the second step, the counselor helps the mother gather information to help her understand the nature and significance of the visual impairment. She is encouraged to ask questions about subnormal visual acuity, its causes, the possibility of the condition correcting itself spontaneously, the possibility of its getting worse, its effect on school activities, and similar matters. During this step the parent gains understanding of the importance of the condition. The counselor supplies information as requested and volunteers information considered helpful.

A third step is to encourage the mother to determine possible courses of action, and a fourth step is a comparison of the expected consequences of each possible course. The mother may consider taking the child to her family physician, to an oculist, or an optometrist. She may ask for information concerning the qualifications of these persons for diagnosing and treating eye defects. (See Chapter 4.) At this stage, questions of cost may arise as well as questions concerning community resources for providing treatment. The counselor should be prepared to provide information and to ask questions that lead the mother to consider possible plans of action and the anticipated results of each.

The next step, an especially important one, is to encourage the mother to choose a particular course of action. The mother is much more likely to carry out the plan she chooses herself than one selected by another person.

If the counselor thinks the choice a poor one, there is opportunity to review the problem and the consideration that has been given it.

The mother is encouraged to look back over the entire series of steps, to think over again the reasons why each decision was made. However, the final decision is made by the mother. The counselor's aim is to stimulate the mother's thinking by pertinent questions, to act as a sounding board for the mother's ideas, and to serve as a source of information. The counseling process emphasizes parental responsibility for the health of the child and the need for children to assume this responsibility gradually as they grow older.

This illustration shows how counseling may be related to the steps in problem solving but should not be interpreted as suggesting that counseling will be conducted in a series of separate, predetermined stages. In actual practice the various steps merge, but the general principles still apply.

Important Counseling Concepts

Counseling techniques are constantly being studied and improved. Some of the important concepts which have been developed can be directly utilized in health counseling.

Personal interaction is important. Parents and pupils should feel that the teacher, nurse, counselor, or doctor cares about them, that he is not aloof, doing a merely routine job. Parents sometimes want to be considered in their own right, not just in relation to their child's health. For example, a father who had tuberculosis was first contacted by a nurse who gave clear and definite directions as to what he must do. To avoid carrying out these measures, he moved his family to another district.

The nurse who contacted this father in his new location used a different approach. She first talked with him sympathetically about his own feelings, his concern about going to the sanatorium and about who would care for the small children while his wife went out to earn the money necessary for their support. The father expressed his anxiety about getting well and the burden he was putting on his wife. The nurse listened and accepted his feelings. She treated him as a person in his own right, not just as the father of children who went to her school. She made practical suggestions when he was ready to accept them and helped him work out a practical plan.

The counselor listens to understand and also to learn from the experiences of pupils and parents. Counseling is two-way communication.

The health measures desirable for the individual should be related to his goals and his concept of the kind of person he wants to become. If, for example, a physically handicapped boy has the image of himself not as a cripple but a boy able to engage in sports appropriate for his age, he will welcome any suggestions for overcoming or for minimizing his handicap. If a girl has the idea that glasses make her unattractive to boys, it will be difficult to get her to wear the prescribed glasses. The skillful counselor tries to tie the recommendation in with the individual's concept of his ideal self.

When an individual feels free to choose he is more likely to do the right thing than when he feels that ideas have been imposed upon him. Today the counselor does not usually tell the child or parent what he must do, but rather tries to help him clarify his health problem and lead him to the point of discovering for himself what to do and how to do it. The counselor also tries to remove environmental obstacles to normal growth and development so that the individual can make optimum progress.

The counselor should try to understand what a health handicap means to an individual, what satisfactions he is getting from it, what influences are preventing him from wanting to overcome the defect, what effect it has on his personal relationships. For example, a girl who lost a leg in an accident learned to use her handicap to get sympathy and special favors. Her parents had been reinforcing this tendency. Through skillful counseling they learned to treat her as normal except for the special limitations imposed by her handicap. The child gradually responded to their realistic expectations of her and became an outstanding person, superior to her physical limitations.

It is equally important for the counselor to know what change is possible for an individual; otherwise, he may be urging the child or the parent to achieve objectives beyond his capacity.

The health counselor's problem is to find out where he can be of help, what aspects of the individual's life he can do something about, how to help him focus on the thing he can do, and how to motivate him to improve along these lines.

These are some of the more subtle aspects of counseling children and youth: to try to understand how they perceive themselves as they are and as they would like to be; to explore environmental influences that are preventing them from wanting to correct remediable defects; to help them to change these conditions, or, if that is impossible, their attitudes toward these conditions; and to give any assistance useful in overcoming the handicap itself.

HEALTH COUNSELING AND RESOURCES FOR TREATMENT

The value of health appraisal of school children and of subsequent counseling may be almost entirely lost if children are unable to secure the care they need. Fortunately, for most conditions this situation does not occur too often. There is growing community recognition of the need to arrange for treatment and other services for those children whose parents cannot secure it for them. In every instance, however, the follow-up aspect of school health services should include consideration of the adequacy of treatment facilities and, where necessary, should initiate community action to assure needed medical and dental care for children whose parents cannot arrange it.

Role of Medical and Dental Society

Recognition should be given to the role of private practitioners of medicine and dentistry. These individuals, through their professional societies, assume responsibility for the quality of medical and dental treatment and are concerned with the availability and adequacy of treatment facilities. Representatives of local medical and dental societies should exercise a leadership role in any consideration of these problems.

The best procedure is to have such representatives included in the group that develops the policies and procedures for school health services. This may be a school health council which also includes individuals representing the schools, health department, voluntary health and welfare agencies, and parents. Such a group is qualified to study existing treatment facilities and to stimulate community action to improve them, when this is necessary. It can consider treatment facilities for children of all ages and with all types of health conditions.

This procedure is based on the premises that provision of treatment for needy children is a community responsibility and that the medical and dental professions are best qualified to determine the methods to be used.

The School Responsibility

Those in charge of school health services are in a position to contribute to community understanding of child health conditions. Through appraisal procedures, information concerning the health status of children is secured. Then, through health counseling, children are helped to obtain the care and attention they need. Such efforts should be supplemented by study of children who do not receive recommended care, to determine the reasons for this. If it is because of lack of understanding on the part of the parents, increased or improved counseling is a remedy. If due to parental neglect, referral to a social agency is indicated. If it is found that failure to secure needed care is due to inadequate treatment facilities, this fact needs to be presented to community health and welfare leaders. Through such procedures, schools make available to the community information which they gain through their close and continued contact with children.

Where adequate resources are available, counseling can be used effectively to improve the health of school children. It becomes a continuous and vigorous effort to help each child secure the benefits of modern medical and public health knowledge. Through face-to-face conferences with pupils and parents it helps them to learn how to meet and solve health problems.

COUNSELING ROLES

Various persons share responsibilities for health counseling. In all schools, classroom teachers and principals have important roles to play. Where available, the physician, nurse, social worker, dentist, dental hygienist, and guidance counselor are assigned specific responsibilities in this important aspect of school health services. The fact that different persons share responsibilities makes imperative the provision of some method to coordinate their efforts.

The Teacher and Principal

In a school which lacks special health personnel, health appraisal will be limited in scope. Nevertheless, teachers' observations and screening tests will identify a variety of problems for which counseling is desirable. Under such circumstances, the teacher and principal will have major responsibility for counseling. There are many opportunities throughout the school day for informal counseling related to health practices. This type of counseling becomes an integral part of health education.

Teacher counseling related to conditions identified by appraisal procedures may be accomplished in many different ways. The teacher may talk individually with a child who does not hear well to find out what has been done about the condition, how the child feels about the problem, and what further attention the parents contemplate. He may invite the child's mother to school and discuss the matter with her. The same procedure can be followed with vision impairments.

The teacher can help his pupils secure dental care by combining health education with individual counseling. The class may discuss the causes of tooth decay, why early treatment is desirable, how dental appointments are made, or how tooth decay can be minimized. Pupils who have gone to the dentist may be commended, without embarrassing those who have not gone, and given an opportunity to tell of their experiences. Through individual conferences, the teacher can encourage those in need of dental care to talk with their mothers about making dental appointments. In selected instances, a teacher may telephone a mother or invite her to the school for a conference. Through these procedures, teachers help pupils and parents understand health conditions and motivate them to take necessary action.

Two factors tend to limit counseling by the teacher. One is his lack of orientation concerning the significance of certain types of health conditions. He may be informed regarding vision and hearing impairments and dental conditions but not about heart conditions, crippling defects, or tuberculosis. He may still report his observations to the parent in objective terms, but a person with greater understanding of health matters can do a better counseling job. Secondly, individual counseling with parents is time-consuming and may interfere with the teacher's other educational responsibilities. The teacher can counsel pupils casually without significant effects on his teaching program, but frequent or prolonged conferences with parents during school hours may interfere with other important functions.

These limitations suggest the need for other persons to assist in health counseling. In some instances the principal provides valuable help, the prestige of his position giving weight to his suggestions. The school physician, of course, has a most important role. Nurses, health teachers, social workers, dental hygienists, and guidance counselors may also help in various ways and with particular problems.

The School Physician and Health Counseling

When a school physician is available, he may assist in developing a health counseling program and may provide valuable help in interpreting health conditions to teachers, parents, and pupils. He also serves as a liaison between the school and the family physician.

At the time of school medical examinations, the examining physician makes certain that the child or parent understands the conditions for which he recommends attention. There will never be a better opportunity to discover if the child or his parent really sees the problem as it is; the physician has at hand all the facts concerning the pupil, and the attention of both the pupil and parent can be directed specifically to conditions requiring care. It is wise for the physician to devote whatever amount of time may be needed to assure that there is correct understanding of the health problem, and that thinking proceeds to the stage of planning specific action. The physician needs to be particularly explicit in interpreting such unusual problems as cleft lip and cleft palate, heart murmurs, speech defects, cerebral palsy, and other conditions about which parents and teachers may have limited knowledge.

If the parent is not present, the physician should present his recommendations to whoever will be responsible for health counseling. So that there will be no misunderstanding of his recommendations, they should be written on the pupil's health card.

The school physician is an appropriate person to transmit information to family physicians and to receive recommendations from them concerning the modification of school programs because of health conditions. At times the school has information about a child that would be helpful to the family physician. For example, knowledge that a child has had frequent, prolonged absences due to respiratory infections might influence his recommendations regarding needed health measures. Knowledge that a child has lost weight over a period of months or seems to lack vitality would be useful to the family physician. He may secure such information from the parent, or it may be given to him by the school physician, either by means of a telephone call or personal letter. Conversely, the family physician may have information that will help school personnel understand the child and enable them to adjust the school program to the child's needs. The school physician may be assigned responsibility for receiving such information and using it to formulate recommended adaptations.

Where there is no school physician, the responsibilities described above will need to be assumed by other persons, usually a school nurse or public health nurse. Policies and procedures in such circumstances should be worked out in consultations with representatives of the local medical society and of the school staff.

The Nurse as Health Counselor

Through counseling pupils and parents, nurses make unique and valuable contributions to school health services. The preparation and experience of the nurse help her gain the skills and understandings that are needed for successful counseling. Her school schedule is flexible enough, or should be, to make her available for counseling when it will be most effective, namely, when a pupil, teacher, or parent is faced with a problem and wants help.

When administrators and teachers accept counseling as an educational process designed to strengthen the individual's ability to handle his own health difficulties, they recognize the need for the nurse to devote a large portion of her time to this type of work. Individual counseling of pupils and parents should be given high priority in planning the nurse's school program. She should have time for counseling at school and for home visits. In some instances she will need to have repeated conferences.

Teachers expect, and rightly so, that the nurse will know more than they about the significance of health conditions observed in pupils, and want her to have time to interpret these conditions to them. Teachers and parents expect the nurse to be familiar with possibilities for treatment in the community. When these are inadequate, she is expected to know where to go beyond the immediate community to find help. Attempts to counsel children can be very frustrating to teachers and parents as well as detrimental to pupils if such help is not available.

The nurse helps teachers in their counseling activities by making sure that they understand the health conditions of their pupils and by offering suggestions, where indicated, regarding counseling techniques. In many communities the nurse holds periodic conferences with teachers to discuss the health problems of particular pupils. She may list pupils who have health problems and indicate the type of referral that is advisable. She checks periodically with teachers to learn what progress has occurred through their counseling efforts.

The Hygienist, Social Worker, and Guidance Teacher

Some schools, particularly in urban areas, have the services of individuals who assist in the counseling and follow-up of pupils with particular types of problems. Where available, the dental hygienist is assigned responsibility for working with pupils having dental defects. A social worker may help pupils who have social problems and contribute to the solution of emotional difficulties. The counseling procedures used by these workers are comparable to those used by the nurse serving the school.

The guidance teacher, or counselor, may assist in counseling activities directed toward either pupils or parents. His preparation in interviewing techniques and his interest in the total adjustment of pupils make him a particularly valuable person in follow-up procedures. In many instances, he can assist teachers by assuming responsibility for cases in which repeated conferences with parents are necessary.

In his work as an educational and vocational advisor, the counselor needs to understand all of the pupil's assets and liabilities. He should be familiar with any deviations from health that exist in pupils with whom he works.

Coordination of Counseling

"Too many cooks spoil the broth," and too many individuals working with teachers and parents cause confusion if their efforts are not coordinated. The teacher may be annoyed rather than helped if visited first by a person concerned with pupils' eyes, then by one interested in emotional health, and later by one working to improve dental health. Similarly, the parent may become indignant and resentful if invited to confer on Monday in regard to Mary's speech, on Tuesday concerning her hearing, and on Wednesday about her emotional adjustment. Such situations can be avoided through cooperative action by those concerned with different aspects of counseling, through a consideration by each worker of all of the problems facing a particular pupil, and through intelligent use of cumulative records that give a complete picture of the child. Careful coordination, along with delineation of the responsibilities of nurses, social workers, dental hygienists, and guidance counselors, is essential.

An excellent procedure for coordinating counseling activities is to center responsibility in the hands of one individual and to have other personnel provide counsel on his request. Where this arrangement is used, the coordinator solicits help when he needs it and makes use of the other workers that can help him most. This requires that he be informed of available resource persons, be aware of their special knowledge and skills, and be willing to enlist their help.

Health counseling has great potentialities. Focused on pupils' health problems, conducted by well-prepared personnel, and carried out with due consideration to community resources, health counseling can be the means of raising the health status of children and youth.

FOR FURTHER READING

ANDERSON, C. L. *School Health Practice.* Second edition. St. Louis: C. V. Mosby, 1960. 530 pp.

ARBUCKLE, DUGALD. *Counseling: An Introduction.* Boston: Allyn and Bacon, 1961. 349 pp.

COTTLE, WILLIAM C., AND DOWNIE, N. K. *Procedures and Preparation for Counseling.* Englewood Cliffs, N. J.: Prentice-Hall, 1960. 330 pp.

CROMWELL, GERTRUDE. *The Nurse in the School Health Program.* Philadelphia: W. B. Saunders Co., 1963. 126 pp.

HARNETT, A. L., AND SHAW, J. H. *Effective School Health Education.* New York: Appleton-Century-Crofts, 1959. 421 pp.

MCKINNEY, FRED. *Counseling for Personal Adjustment in Schools and Colleges.* Boston: Houghton Mifflin Co., 1958. 584 pp.

OBERTEUFFER, DELBERT. *School Health Education.* Third edition. New York: Harper & Brothers, 1960. 547 pp.

TOLBERT, E. L. *Introduction to Counseling.* New York: McGraw-Hill Book Co., 1959. 322 pp.

TYLER, LEONA E. *The Work of a Counselor.* Second edition. New York: Appleton-Century-Crofts, 1961. 327 pp.

Chapter 7

Meeting the Needs of Exceptional Pupils

The democratic concept of public education allows no exception; every pupil must have the opportunity for an education according to his needs, interests, and physical and mental capacities. Health appraisal identifies pupils with varying physical and mental capacities; the follow-up program should help these pupils obtain an educational program that is suited to their individual needs.

Adjustment of school programs to individual needs has an important bearing on emotional health. If unable to achieve reasonable success in school activities, a pupil may become frustrated, depressed, and unhappy. These feelings in turn may result in aggressive antisocial behavior or, on the other hand, cause the pupil to withdraw from desirable group activities.

Two groups of pupils may find it particularly difficult to profit fully from the regular school program: one, the physically handicapped, and the other, those who are significantly below or above average mentality. Exact figures of the number of pupils in these categories are not available, and estimates vary. In general, however, of every 1,000 pupils approximately 59 will have physical handicaps that indicate a need for special school adjustments or adaptations. These may be divided as follows: partially seeing and blind, 2; hard-of-hearing and deaf, 15; speech-defective, 15; crippled, 10; lowered vitality, 15; and epileptic, 2. In the same group of 1,000 pupils there will be approximately 40 who deviate considerably from average mental ability, half of whom will be mentally retarded and the other half, mentally gifted. These figures are estimates only; the exact incidence in a particular community can be determined by use of the health appraisal procedures described in previous chapters.

The physically handicapped and the mentally retarded or gifted together are sometimes referred to as "exceptional pupils" and the programs provided for them as "special education" or "education of the exceptional."

'lint Community Schools, Flint, Michigan

NEEDS OF PUPILS HAVING HEALTH PROBLEMS

Basically, pupils with health problems are similar to other children and youth and have the same need for parental love and for opportunities to grow and develop physically, intellectually, socially, and emotionally. While all children face problems in growing up, those with health handicaps are apt to find these problems accentuated. They can be helped, however, to develop to the full extent of their physical and mental capacities, and most of them can become happy, independent, contributing members of society.

Efforts to meet the needs of physically handicapped and mentally retarded pupils requires coordination of health and education procedures including case finding, diagnostic treatment services, social services, special education, and vocational counseling. There needs to be the closest possible cooperation between education and health departments and among parents, practicing physicians, and voluntary health organizations.

Preliminary to the provision of any type of special education for a handicapped pupil, school personnel should obtain information concerning the pupil's health, particularly any condition that causes disability, and should find out whether he has received all recommended treatment. This information may desirably be gathered by the pupil's mother and then transmitted by her to the school. Such information is basic to the development of programs for those with special health problems. The suggestions which follow are based on the assumption that a pupil has received the full benefits of modern medical treatment.

Need for Sympathetic Understanding and Help

Children with certain types of health problems are more in need of sympathetic understanding of their condition than of special education. While those with hay fever, asthma, and eczema may require medical supervision, they have no special educational needs, save understanding of their condition on the part of the teacher. Pupils who are asthmatic may be absent frequently, and some curtailment of activities may be necessary. Maintaining a close relationship with the home during periods of absence can help the teacher understand the pupil's problem and enable him to provide the needed assistance.

Diabetes is uncommon in childhood, but it has serious implications when it does occur. Diabetic children must be under close medical supervision and many must take insulin. It is necessary that the teacher and school health service personnel cooperate with the pupil's physician. Occasionally, a child may take too much insulin and experience insulin shock, a condition which usually can be averted or halted by sugar. The child learns to recognize the symptoms—he becomes hungry and nervous, perspires, and has feelings of weakness. Children who are being treated with insulin should carry several lumps of sugar for use on such occasions. The symptoms of diabetes may also be aggravated by insufficient insulin, a circumstance that may lead to diabetic coma. This condition comes on gradually and is due to an inability of tissues to use sugars and fats, resulting in the accumulation of toxic substances in the blood. Diabetic children of necessity learn about their disease; and if they adhere to medical instructions with regard to diet and insulin and are active, they usually fit satisfactorily into a regular class in school.

Methods of Adapting School Programs

In contrast to pupils whose health problems require primarily sympathetic understanding are those whose conditions require special school adaptations. The needs of these pupils may be met in a number of different ways. They may be enrolled in—

1. Regular classes in public day schools.
2. Special classes in public day schools.
3. Special day schools.
4. Residential schools.

In a few instances it may be necessary to provide home instruction, sometimes supplemented by a two-way communication system between a pupil's home and the classroom. While valuable as a temporary measure, the limitations of this method of instruction are so great that it is not recommended for long-term use.

Most physically handicapped pupils can be educated in regular classes with such modifications as may be required, and the trend is clearly in this direction. Some can be cared for best in special classes in day schools, a procedure that allows pupils to live at home and still get a satisfactory education. In either case, considerable flexibility in school administration is requisite. Such schools must have adequate health and guidance services and, where needed, teachers with special preparation for conducting education programs for exceptional children.

The type of school situation which is best must be decided individually for each pupil, with due consideration to health, home conditions, interests, and intellectual ability. It is generally accepted, however, that segregation should be avoided if possible and that handicapped pupils should work and play with normal pupils to the fullest extent possible. The realities of facing the rest of the world will be met more easily if pupils who are handicapped learn to live with normal individuals from early childhood.

The age when formal schooling usually begins for normal children is not necessarily the age when handicapped children should begin theirs. Childhood does not begin at 5 or 6 years. When children are seriously handicapped orthopedically or do not hear well enough to develop language competency, the preschool years are particularly important. Nursery schools for handicapped children have been organized in many communities, with assistance from health departments and voluntary organizations. Extension of such efforts is desirable.

Procedures for meeting the educational needs of exceptional pupils can best be presented by separate consideration of different categories.

HELPING PUPILS HAVING VISUAL HANDICAPS

Most pupils with visual impairments can be so helped by medical treatment and optical aids that they will have no difficulty with school tasks. They may need to be reminded to wear their glasses, to keep them clean, and to have them adjusted periodically. They should be encouraged to return for re-examinations at the intervals suggested by their physician.

The Partially Seeing

One pupil in about every 500 will have difficulty in seeing even after receiving all possible medical treatment and being fitted with appropriate glasses. These pupils still learn through the sense of sight and therefore do not belong in a class or school for the blind. Their vision, with glasses, will be between 20/70 and 20/200.

Two plans are used in arranging school programs for the partially seeing: in one the pupil is enrolled in a regular class and given special help as needed; in the other he is enrolled in a special class. As stated in a recent publication,

> The present trend is to enroll partially-seeing children in the regular grades of their home schools and there bring to them the special teacher, materials of instruction, and assistance they need. Here, in particular, the cooperation of the regular grade teacher and the special teacher reaches its high point. The special teacher serves on an itinerant basis, with opportunity to visit many

schools and devote as much time as is needed with the child himself as well as with his regular teacher.[1]

Materials helpful in teaching partially seeing pupils include books printed in large clear type (18-25 point), pencils with thick, soft leads, and unglazed paper for writing purposes. Information concerning materials and other elements in a program for partially seeing pupils can be obtained from the National Society for the Prevention of Blindness.*

Procedures appropriate for partially seeing pupils at both the elementary and secondary school levels and in rural or urban schools include the following:

Preferential seating, which enables the pupil to avail himself of the most satisfactory illumination and to select the best location for viewing chalkboards, bulletin boards, charts, graphs, demonstrations, and the like.

Discriminate use of typewriters in the classroom so that written assignments may be typed, an activity which requires little or no use of the eyes.

Schedule planning to allow alternation of periods of close eye work with those not so demanding.

Tutoring is desirable for pupils who need help in keeping up with their regular work.

Partially seeing pupils need frequent eye re-examinations by their physicians to determine if their condition is static, improving, or growing worse. For some, the physician may recommend restriction of certain types of physical activities such as jumping, tumbling, diving, and body-contact sports.

Educating the Blind

Children with visual acuity of 20/200 or less in the better eye with correcting glasses are classified as blind. Two methods for educating the blind have proved successful. One is the residential school which is geared in its entirety to the needs of blind children and equipped with special aids for their education. The other method is use of a so-called Braille class in a regular school.

In a Braille class a specially prepared teacher instructs up to 10 or 12 pupils in Braille reading and writing and in those subjects in which blind pupils cannot follow regular classroom instruction. For other subjects and activities, Braille class pupils join regular classes.

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[1] National Society for the Prevention of Blindness. *The Case for the Partially-Seeing Child.* New York: the Society, 1961.

* Address: National Society for the Prevention of Blindness, 16 East 40th St., New York, N. Y., 10016.

In learning, blind children rely almost exclusively upon their senses of touch and hearing. Some of the special equipment and mediums in the education of the blind include "talking books" (long-playing phonograph records), Braille writers, embossed diagrams, relief maps and globes, and models.

In some schools, blind students are placed in regular classes and then provided special help by means of an itinerant teacher. Such students make use of "talking books" and many of the other materials used in Braille classes.

EDUCATION FOR THE ACOUSTICALLY HANDICAPPED

Acoustically handicapped pupils include the hard of hearing and the deaf. The hard-of-hearing pupil may have a slight, moderate, or severe hearing impairment but always has some residual hearing ability. The deaf are those with severe hearing losses, more then 70 decibels. It is estimated that between 0.5 and 1 percent of school children have an amount of hearing loss severe enough to be considered handicapped.

Special Education for the Hard of Hearing

Procedures for meeting the needs of hard-of-hearing pupils must take into account their ability to communicate with others and the age of onset of their handicap in relation to the development of language abilities. Following appropriate medical treatment, consideration should be given to the help they may obtain from hearing aids, auditory training, speech reading, and speech training.

Where the hearing loss is in the 20-30 decibel range, it often will be sufficient to provide advantageous seating, auditory training, and instruction in speech reading. The latter may be provided for half-hour periods two or three times a week by an itinerant teacher. Pupils should be re-examined periodically to determine whether the hearing loss is progressive.

Most children whose hearing loss is in excess of 30-35 decibels should use carefully selected hearing aids. They will be considerably benefited from the help they receive, particularly if given adequate training in ways of using the aid. Speech reading is essential, and some may need speech training in order to maintain socially acceptable speech. Attendance in regular classes should be continued insofar as possible except for special instruction in speech reading and auditory training.

Severely handicapped pupils, those with losses of between 50-70 decibels, will do better in special classes in regular schools. Every child handicapped by a hearing loss should have an opportunity to live at home and attend a day school if at all possible. He should be enrolled in a residential school only if he cannot otherwise make reasonable progress in his school work.

In recent years much interest has been directed to preschool children with hearing losses. Much of the difficulty in educating a child with a severe hearing loss is a result of his receiving little or no help until he is 6 years old. As a consequence, his command of language is inadequate and he becomes educationally retarded.

There is no sound reason for waiting until 6 years of age to help a hard-of-hearing child. Classes for children in schools for the deaf and in public and private institutions have demonstrated that children 2 or 3 years of age can wear hearing aids and learn language. Many of them will become better equipped for growing up and acquiring an education than those who receive no special attention during the preschool years.

Programs for the Deaf

The education of the deaf, those with hearing losses of 70 decibels or more, is generally conducted in special day or residential schools. Since the percentage of the school population having such severe hearing loss is small, those falling in this category will be scattered throughout the community and will need to be assembled at one central point for special education.

The major aim in the education of the deaf is the establishment of a means of communication. Instruction is given in speech and lip reading and sometimes in finger spelling and finger signs.

ORTHOPEDICALLY HANDICAPPED PUPILS

According to state registers of crippled children, there are about 400,000 children and youth who are handicapped more or less seriously by orthopedic conditions. This group includes those with defects in the size and structure of bones or joints or with deviations in strength, coordination, or control.

Causes of Orthopedic Defects

Orthopedic handicaps are the result of a variety of causes. Some are due to the aftereffects of poliomyelitis. Disabilities due to this cause have decreased in recent years and undoubtedly will continue to decrease as widespread use is made of preventive vaccines.

Another important cause is cerebral palsy, a condition which results from damage to brain cells just before birth, at the time of birth, or shortly after birth. In most instances the exact cause cannot be determined. The handicap produced is often multiple, involving speech, hearing, and vision, in addition to motor muscles. Intelligence is less often affected than is generally believed. Sometimes subtle brain damage results in learning disabilities that do not show up for years.

Some orthopedic defects are congenital, a result of improper development of bones. Such defects may involve the feet, spine, or other bony structures of the body.

Traumatic injuries frequently cause orthopedic handicaps. Such injuries include amputated limbs, crushed joints, and severed muscles.

School Procedures

Practically all who work with orthopedically handicapped children agree that they should attend regular classes, if it is at all possible for them to do so. There they may have many of the same kinds of experiences as normal pupils and learn to respond on the level that is expected of them in a competitive world. For those who are not physically capable of participating in the regular program, it is necessary to adapt staff, facilities, curriculum, and equipment so that each may receive an appropriate education.

Special provisions for orthopedically handicapped pupils may include: (a) transportation in school buses with an attendant, (b) physical and occupational therapy, (c) speech therapy, if needed, and (d) health supervision by the teacher under the general direction of the school medical advisor and nurse, if such are available.

Where there are a number of orthopedically handicapped pupils needing regular physical or occupational therapy, or both, it is desirable to arrange them temporarily in a special group so that such services may become part of their daily routine. This makes frequent therapy possible and enables the handicapped pupils to be with other pupils during the school day. This procedure is of great advantage to mothers, particularly if there are other children in the family. Since some pupils will need therapy regularly, even during school vacation periods, arrangements need to be made to make therapy available on a 12-month basis.

One of the most important functions of the teacher of orthopedically handicapped pupils is to help them adjust to their conditions and to prevent the psychological crippling which often is more damaging than the physical disability. This goal necessitates guidance in developing a philosophical attitude which will help the pupil face the inevitable comments about his handicap, the moments of being stared at, and the sometimes oversolicitous attention he may receive. The handicapped person may be helped to focus his attention on his assets and abilities, not on his limitations.

PUPILS WITH SPEECH HANDICAPS

Speech-defective pupils constitute one of the largest groups of handicapped youngsters. They frequently tend to develop emotional conflicts because of their difficulties with communication.

Types of Defects and Disorders

Numerous defects and disorders produce speech that is indistinct, unpleasant, or not understandable. They may be grouped in the following categories: (a) articulatory defects, (b) stuttering, (c) organic disorders, (d) conditions associated with hearing impairment, (e) voice problems, and (f) retarded speech development.

Functional articulatory defects, the most common, are characterized by omission of sounds, distortion of sounds, or the substitution of one sound for another. The chief causes are faulty learning and emotional factors. Usually there is no organic defect. Among each 1,000 pupils there are likely to be 40 to 60 with articulatory disorders requiring special attention.

Stuttering affects from 6 to 10 out of every 1,000 pupils. It is characterized by fear and noticeable tension in contrast to the normal, easy, and unself-conscious repetitions frequently observed in young children. Stuttering is believed to be caused mainly by parental anxieties concerning the normal imperfections of childhood speech and the elaborate train of consequences which such anxieties set in motion. Once started, stuttering can be aggravated by all factors that tend to produce maladjustment and lowered efficiency. Research has not uncovered an organic cause for stuttering.

Among organic speech disorders, those associated with cleft palate or cleft lip and cerebral palsy are the most common. Approximately 1 child out of every 800 is born with a cleft lip or palate.

I see {a / an / some ____s.
is this?
{a / an / some ____s.
want?
{a / an / some ____s.
Miss Kates

They need expert medical and surgical attention as well as speech training over a period of years.

Speech problems associated with impaired hearing consist mainly of distortions of articulation and voice. About 1 percent of school children require the services of a speech correctionist by virtue of a hearing loss.

Voice problems of a significant nature occur among from 1 to 2 percent of school pupils. The voice may be too high, too low, or monotonous in *pitch*; too loud, too soft, or monotonous in *volume*; nasal, breathy, hoarse, or harsh in *quality*.

Retarded speech development occurs in about 5 out of every 1,000 children. The causes are numerous, including mental subnormality, illness during crucial periods of speech development, oversolicitous parents, and emotional disturbances. The numerous causes indicate the need for careful diagnosis before treatment is inaugurated. Help may be needed from a physician, and sometimes from a psychiatrist, psychologist, social worker, or speech correctionist.

Helping Pupils with Speech Defects

Pupils with speech defects or disorders may be identified by parents or teachers, by physicians or nurses. After medical examination to determine whether there is an organic basis for his problem, a pupil may be referred to a speech correctionist. About 1 to 2 percent of pupils will need help from such a person. A speech correctionist provides help to pupils individually or in small groups (8-10). Ordinarily pupils will be scheduled for one or two 15-minute periods each week.

In the absence of special speech teachers the best that can be done for speech-handicapped pupils is to ensure, insofar as is possible, that all members of the school staff possess at least an elementary knowledge of speech problems and of the type of program which will help those with such problems. Recommended procedures to help prevent speech defects and to promote improvement among children who have speech defects include the following:

1. Give constructive attention to conditions that may produce fear, insecurity, and shyness.
2. Create a friendly and satisfying school atmosphere.
3. Avoid labeling a pupil as a stutterer.
4. Encourage the pupil with defective speech to practice speaking, but do not force him.

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5. Refer pupils who seem to have impaired hearing to their physicians.
6. Assume an enlightened and sympathetic attitude toward boys and girls undergoing adolescent voice changes.
7. Maintain a well-rounded school health program with special attention to upper respiratory infections.
8. Make speaking fun. In primary grades utilize speech games and games which promote auditory training.

The emotional climate of the classroom and teacher-pupil relationships are important factors in preventing speech disorders and in helping pupils who have such disorders.

FRAIL CHILDREN

In most schools at one time or another there will be a few children who do not have the usual amounts of strength, energy, and endurance. These are sometimes referred to as "frail," "delicate," or "undervitalized"; but labeling them is not desirable and sometimes produces unfortunate mental attitudes in children and parents. Attention needs to be given to their condition, however, and to school adjustments which may be helpful.

The first step is to discover the cause. Lack of energy and vitality may follow prolonged illness or a serious accident. Such information may be obtained by questioning the pupil or his parents. In other instances the condition may be the result of obscure health conditions that can be diagnosed only by a complete medical examination including laboratory tests. Parasitic infections, glandular disturbances, and blood disorders may be found. Whenever unexplained weakness and chronic fatigue are observed, a child should be referred to his physician for examination.

School Adjustment Must Be Individualized

For the convalescent, arrangements may be made for half-day attendance over a period of time and possibly for a rest period during school hours. Physical education should be modified to meet the needs of the pupil. The return to normal strength may be slow, and resumption of school activities should be gradual and dependent on the child's general condition.

School problems of debilitated children may be complicated by frequent absences. This justifies the use of tutoring to help the child with his studies. The pupil should be aided in making up missed work but not required to work so hard that his progress toward normal health is retarded. Sympathetic guidance, together with assurance that he will have ample time to make up lost work, will facilitate his progress.

Although most children requiring special attention because of general weakness and fatigue are cared for in regular classes, some large communities have established special health rooms in which these children may be placed temporarily. Such an arrangement facilitates the provision of rest periods and of individual tutoring. It is particularly helpful in caring for children who attend school for less than a full day and for those whose attendance may be extremely irregular.

LATERAL DOMINANCE

One side of the body may be stronger than the other in terms of strength, agility, and ease of control. This condition, called lateral dominance, finds expression as handedness, eyedness, footedness, and general body dominance.

Extent of the Problem

Most persons are right-handed, and most of the gadgets and arrangements in our daily living are designed for right-handed individuals. As a consequence, left-handed people have many adjustments to make. Some left-handed persons make these adjustments easily, while others experience emotional confusion.

Estimates of the number of left-handed persons vary, the most commonly accepted figures being from 4 to 6 percent. The variations occur because handedness is not always apparent. When a child uses his right hand regularly for most operations, it cannot be assumed that his preference lies in that direction. He may have been trained to do most things right-handed.

Recommended Procedures

Emotional disturbance may arise among children who are forcibly changed in their handedness. Following forcible conversion of handedness, some children develop awkwardness, poor muscular coordination, irritability, restlessness, slow thinking, and confusion, with a feeling of inferiority. It also may be followed by speech defects, reading disability, and writing difficulties.

The following suggestions are offered for dealing with problems of lateral dominance: Assure pupils that left-handedness is a "normal" condition for some persons. Do not force a child to change his handedness and be on the alert to observe the results of changes in handedness forced by parents. When a left-handed pupil writes, permit him to place his paper so that it runs on a diagonal running from the upper right corner of his desk to the lower left corner. If a pupil experiences conflicts due to his handedness, suggest that he be seen by a physician or psychologist for careful examination and guidance. These procedures will help pupils with problems due to lateral dominance.

HELPING THE MENTALLY HANDICAPPED

Mentally handicapped pupils are generally classified into three groups: the slow learners (Intelligence Quotient between 90 and 70), the mentally retarded (IQ between 70 and 50), and the mentally deficient (IQ below 50). Scores on standard mental and educational achievement tests are the basic criteria used. These may be supplemented by medical findings, evidence of retardation in school, and the judgment of principals and teachers. From the point of view of health, the development of programs that meet the needs of mentally handicapped pupils is aimed at preventing emotional and social problems.

The Slow Learners

In any school or classroom the slow learners are at the lower end of the class. They compose from 20 to 25 percent of the school population. In terms of intelligence tests their IQ's range from about 70 to about 90. Other terms used to describe this group are *borderline* and *dull*. The latter is bad for obvious psychological reasons.

Slow learners have the capacity to become good wage earners and good citizens. In educational achievement, however, they progress more slowly than most of their classmates.

There are nonintellectual differences between slow learners and average pupils. As a group, slow learners have retarded motor skill and muscular coordination, their general strength and physical stamina are below par, and they are absent more than is usual due to sickness. Some lack desirable personal and social qualities as a result of unfavorable economic and social backgrounds. Fortunately, every slow-learning child is not affected with all these disabilities.

Slow learners are usually enrolled in regular classes. The teacher takes their below-average ability into account and helps them by (a) using concrete examples—objects, pictures, field trips, and such; (b) providing opportunity for handwork; (c) stressing the immediately practical; (d) stressing vocational use; (e) teaching pupils how to study; (f) gearing reading to the reading readiness of pupils; (g) appealing to the simpler interests—in food, in the strange, in excitement; and (h) developing any special abilities a pupil may have.

The Mentally Retarded

Approximately 2 percent of all pupils should be enrolled in special classes for the mentally retarded. These are children with IQ's ranging from about 50 to about 70.

Classes for mentally retarded pupils should be part of regular schools for children of the same age. Classes should be distributed throughout the community so that they are at a minimum distance from pupils' homes. Locating the older mentally retarded pupils in junior high schools provides opportunities for industrial arts and home economics at minimum expense.

Traditionally, training has been of the handwork type. In planning programs, however, it should be recognized that the majority of these pupils will go into unskilled occupations and personal service, rather than into skilled trades. Stress should be placed on the following types of work: (a) specific training in personal habits, safety habits, courtesy, promptness, and social skills; (b) information and training in the skills essential for home and community living; (c) experiences leading to appropriate cultural development. The latter will include participation in sports, music, games, handwork, and other expressive and leisure-time activities.

Parental attitudes sometimes make it difficult to transfer a pupil from a regular class program to one designed especially for the mentally retarded. The parents may have difficulty accepting the fact that their child is mentally retarded. In general, the key to reaching an amicable agreement is to obtain parents' emotional acceptance of the child's condition and needs.

The Mentally Deficient

One or two children out of every 100 are mentally deficient, having IQ's of about 50 or less.

Children in this group do not learn well in usual school situations. Some are trainable, and may be cared for in a special center for the trainable mentally handicapped or in a special class in their neighborhood school. At best, however, only a few of them will reach a mental ability equivalent to that of second grade pupils, a level which obviously is inadequate for unsupervised community living. Other limitations may exist, such as speech and language defects, inability to observe safety precautions, inadequate personal habits, social incompetence, and behavior instability. Those children who are unable to succeed in classes for the trainable mentally retarded usually require custodial care.

THE MENTALLY GIFTED

From the point of view of emotional health, adjustment of programs to the needs of gifted pupils is as important as providing suitable programs for the mentally handicapped. The term "gifted" is applied to those with superior intellectual ability as revealed by psychological evaluation and to those who have particular talent in any field of endeavor. Two percent of the school population or more is gifted, the percentage depending on the criteria used.

Adjustment Problems

A pupil with unusual talents or superior intellectual ability may be unhappy with a regular school program and may develop undesirable social attitudes. The regular program may not challenge him or give him an opportunity to develop his talents. He may become bored, disinterested, and possibly rebellious.

The potential problems of a gifted pupil relate to both home and school situations. The situation that may exist has been described in the following manner:

> It is natural to seek companionship on one's own intellectual level. Yet the children who are equal in age to the intellectually superior child are chronologically older and hence physically bigger and stronger and socially more mature. These older children may not like to be tagged around by a "smart-aleck kid." Even parents and teachers may be goaded into irritability by his exhibitions of superiority. If the superior child tries to associate with children who are his chronological equals, he is likely to be bored by them and they are likely to be antagonized by him. As a result the child is caught in a situation in which he feels that he is not wanted anywhere. And like all people who feel unwanted he will develop emotional difficulties.[2]

The prevention of these difficulties is achieved by providing educational programs that are adapted to the abilities of gifted pupils, programs that challenge their efforts and enable them to develop their talents.

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[2] Wheatley, George M., and Hallock, Grace T. *Health Observation of School Children*. Second edition. New York: McGraw-Hill Book Co., 1956. p. 68.

Programs for the Gifted

Schools use four major methods to provide optimal opportunities for gifted pupils. These are (a) enrichment of the regular curriculum, (b) special classes, (c) accelerated programs, and (d) elective courses. These methods are not mutually exclusive and all four are concerned with broadening and enriching educational opportunities.

Many schools provide an enriched program for gifted pupils. The gifted pupil remains at his own grade level and in his regular room but carries on a variety of activities over and above those expected of other pupils. These include supplementary reading, special individual problems and projects, simple research, hobby clubs, and cocurricular programs. Although a step in the right direction, it is doubtful if enrichment can adequately meet the educational needs of all gifted pupils.

An increasing number of schools have set up special classes for pupils with superior general ability. In these classes a small group of gifted pupils follow an enriched curriculum. Criteria used in selecting pupils for special classes include chronological age, IQ, health, teacher opinions, and achievement test scores. The special class has the advantage over other methods in that more careful attention can be given to the development of programs especially adapted to the needs of gifted pupils. It is particularly helpful in large schools and communities where there are a considerable number of gifted pupils. It is not a feasible plan in small schools and small communities.

Acceleration of education is achieved in some schools by assigning pupils to rapidly moving classes which complete two years of work in one year or three years of work in two. Besides saving time, acceleration is designed to prevent the gifted pupil from developing habits of indolence, a hazard which exists if he is not occupied with studies that challenge his ability. Although acceleration through enrollment in rapidly moving classes is preferred to the older method of allowing pupils to skip a grade or grades, it still tends to place gifted pupils in competition with those who are chronologically older and socially more mature. Acceleration is generally considered to be the least satisfactory of the various methods used for meeting the needs of gifted pupils.

In secondary schools, educational experiences are greatly differentiated by the courses which students elect. With careful guidance, pupils with a special talent or with high intelligence can be challenged and helped through a wide variety of elective courses.

Efforts to adjust school programs to the needs of individual pupils, whether they be handicapped, gifted, or "average," are designed to improve the effectiveness of education and to promote the emotional health of children and youth. Through these measures all pupils are helped to live happier and more useful lives.

FOR FURTHER READING

AMERICAN PUBLIC HEALTH ASSOCIATION, COMMITTEE ON CHILD HEALTH. *Services for Handicapped Children.* New York: the Association, 1955. 148 pp.

CANFIELD, NORTON. *Hearing, a Handbook for Laymen.* Garden City, N. Y.: Doubleday, 1959. 214 pp.

HATHAWAY, WINIFRED. *Education and Health of the Partially Seeing Child.* Fourth edition. New York: Columbia University Press, 1959. 201 pp.

JOHNSON, WENDELL, AND OTHERS. *Speech Handicapped School Children.* Revised edition. New York: Harper & Brothers, 1956. 575 pp.

JORDAN, THOMAS E. *The Exceptional Child.* Columbus: Charles E. Merrill Co., 1962. 352 pp.

NEWBY, HAYES A. *Audiology—Principles and Practice.* New York: Appleton-Century-Crofts, 1958. 342 pp.

PERRY, NATALIE. *Teaching the Mentally Retarded Child.* New York: Columbia University Press, 1960. 282 pp.

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, OFFICE OF EDUCATION. *Exceptional Children and Youth: Special Education Enrollments in Public Day Schools.* Washington, D. C.: Government Printing Office, 1961. 14 pp.

WITTY, PAUL; CONANT, JAMES B.; AND STRANG, RUTH. *Creativity of Gifted and Talented Children.* A group of four articles published by the American Association for Gifted Children. New York: Bureau of Publications, Teachers College, Columbia University, 1959. 51 pp.

Chapter **8**

Dental Health Services

The youth of the nation can be brought to adulthood with sound oral health only if they give proper care to their teeth and gums and receive regular care from a dentist. These requirements for dental health can be met by most pupils through their own efforts combined with assistance from their parents, dental practitioners, and school personnel.

Since dental decay and other defects and diseases of the teeth and gums affect a greater number of pupils than any other single health problem, it is important that school health services include efforts to promote dental health. School personnel can play an important role in raising the level of dental health in this country. Both dental health education and dental health services should be focused on—

1. Encouraging and motivating pupils to visit a dentist regularly for examination and treatment.
2. Presenting scientifically accurate information about teeth and gums in the health education program, so that pupils may learn how to care for their teeth and what the community does to promote dental health.
3. Helping to arrange for the dental care of pupils whose families have not been able to provide it.
4. Providing experiences, including food services, that encourage desirable health practices with respect to dental health.

Dental health cannot be considered separate from other aspects of health. General physical health affects the teeth, and conversely, the condition of a pupil's teeth affects his general health. It is common knowledge that a pupil with a toothache or other dental problem may be irritable, disinterested, and unable to concentrate. His learning may be negligible until his dental health is improved.

TYPES OF DENTAL HEALTH PROBLEMS

Largely because of the prevalence of dental caries, it has been common practice in the past to give almost complete attention to

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this disease in planning school dental programs. Although the destructive effect of tooth decay should not be minimized, malocclusion, clefts in lip and palate, injuries, and diseases of the tissue that surround and support the teeth should be given their share of attention.

Incidence of Dental Caries

Comprehensive studies of the incidence and prevalence of dental caries in children and youth have been made in every section of the United States. A composite picture of the results shows that at the present time approximately 50 percent of 2-year-old children have one or more carious teeth. By the time children reach school age, they have an average of three carious teeth. At the age of 16 the average youth has seven teeth decayed, missing, or filled, with 14 tooth surfaces involved. Girls have more carious lesions than boys of the same age, the difference being attributed to the earlier eruption of teeth in girls and the consequent longer exposure to attack by caries.

A national survey[1] conducted in 1952 showed that 80 percent of all dental patients under 20 years of age had teeth needing fillings. The average number of carious teeth increased with age, from three teeth for patients 5 to 9, four teeth for patients 10 to 14, to more than five teeth for patients 15 to 19. It should be noted that this study included only teeth needing restoration, while the previous figures cited included decayed, missing, and filled teeth.

A more recent study on "The Status of Dental Health of Navy Recruits," [2] involving 2,027 young men from 18 to 23 years of age, reports that the mean number of carious teeth per recruit was 7. In addition, the recruits had an average of 2.4 missing teeth at the time of the examination and more than one-third of them needed one or more teeth extracted. It would appear that these figures indicate a constant problem of dental disease, continuing unabated throughout the years. Much needs to be done to reduce these figures through greater attention to personal and professional preventive care.

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[1] Bureau of Economic Research and Statistics, American Dental Association. "Survey of Needs for Dental Care." *Journal of the American Dental Association* 46: 200; February 1953.

[2] The Dental Research Laboratory, Dental Department, U.S. Naval Training Center, Bainbridge, Md. *Survey of Dental Health of the Naval Recruit.* I. Status of Dental Health Research Report NM 7501.04.02 1957. Bainbridge, Md.: the Center, 1957.

Malocclusion

Malocclusion is the term applied to irregularities of tooth position which result in the improper fitting together of the teeth on closing the jaws. Malocclusion may lead to deformities of the jaw and face.

Healthy teeth in proper position are important from the standpoint of mouth health and personality. Irregularities may interfere with mastication and may cause an individual to select foods not suitable for adequate nutrition. Dental and facial deformities may produce undesirable emotional attitudes. Severe crowding of teeth often contributes to speech defects and may lead to gum disease in later life. In addition, teeth that are not in correct position are more difficult to keep clean.

Statistics on the prevalence of malocclusion vary greatly. This is understandable because there are many degrees of malocclusion. A study of more than 7,000 Michigan children, which was carried out as part of an over-all survey of dental care needs in that state, indicated that about 27 percent of the children were in need of some kind of orthodontic treatment. After age 14 care was indicated for about one-fourth of all children.[3]

Irregular teeth may be caused by inherited or environmental (acquired) factors. In either case the condition can usually be corrected by orthodontic care.

An inherited tendency may be an important cause of malocclusion in many cases. In such cases, eruption of the teeth may be advanced further than the growth of the jaws. As a result, the size of the jaw is not adequate to accommodate the erupting teeth and they wedge themselves into place by twisting and overlapping. A combination of narrow dental arches and larger than normal teeth may also result in malocclusion.

Nonhereditary factors causing malocclusion include excessive sucking habits, especially after permanent teeth have erupted; biting, grinding, or tongue thrusting habits; premature loss of teeth; and, in some cases, prolonged retention of teeth. Early preventive and corrective measures by the dentist can prevent the development of most malocclusions resulting from these causes.

Malocclusion can be prevented to the extent that certain undesirable habits and conditions can be corrected or remedied before they become serious. Preventive measures may be applied at any time during the period that a child's dental structure is developing.

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[3] Moore, G. R. "Orthodontic Program of Michigan State Department of Health with New Classification of Occlusion for Survey Purposes." *American Journal of Orthodontics* 34: 355; 1948.

Malocclusion can be corrected through orthodontic care. Orthodontics, a specialized division of dentistry concerned with tooth alignment, deals with the highly complex problems of growth and development as they relate to the teeth and jaws. The nature of a particular condition determines the age at which orthodontic treatment should be started and the length of time that treatment will be required.

Injuries to Teeth

Complete statistics on the incidence of dental injuries are not available, but among children and athletes the problem can be a serious one. If teeth are fractured, loosened, or knocked out, immediate attention of a dentist is indicated. Treatment can usually restore the injured teeth to health and function through various techniques including suturing, splinting, and implantation. A step in eliminating dental injuries in contact sports is the use of mouth protectors or face guards by football players.

Diseases of Tissues Surrounding Teeth

Diseases of the gums and other structures supporting the teeth, referred to as periodontal diseases, include gingivitis, Vincent's infection (trench mouth), and periodontitis.

There is considerable evidence that periodontal diseases, including periodontitis, have their inception in childhood. Recent advances in caries prevention will greatly extend the "life expectancy" of teeth, but this gain will be sharply offset in later years if periodontal diseases are not given attention in programs for children and youth.

Periodontal diseases result in inflammation and infection of the gums, degeneration of the periodontal membrane, progressive loss of supporting bone structure, formation of pus pockets, and loosening of teeth.

In persons under 20 years of age, gingivitis (inflammation of the gums) is the most common of the various forms of periodontal disease. Simple gingivitis is caused by local injurious agents, such as accumulation of deposits on teeth (calculus), rough edges of fillings, and strong chemicals. It may also be caused by irregular tooth alignment. Infectious gingivitis is caused by local bacterial growths between the teeth and beneath the gum margin. These growths produce inflammation of the gums accompanied by pain and bleeding. The most effective means of prevention and of treatment are the proper use of the toothbrush and dental floss and other measures prescribed by a dentist. Prophylaxis by a dentist or dental hygienist at intervals suggested by the dentist is essential, since personal care alone cannot eliminate the accumulation of calculus.

Wide variations in reports of the prevalence of gingivitis are due, in all probability, to lack of uniformity in the criteria used in examinations. In an early study (1933) it was found, for example, that gingivitis was almost universal in children attending the Guggenheim dental clinic in New York,[4] while the prevalence reported by other investigators ranges from 8 to 60 percent in children of school age. Of 804 children (5 to 14 years of age) examined in a suburban school of Chicago, 64.3 percent had gingivitis. The severity of the disease was found to be in the order of 35.9 percent, mild; 12.8 percent, moderate; 9.2 percent, severe; and 6.5 percent, very severe. The percentage of children affected was significantly higher with increasing age. It mounted rapidly from 9.1 percent at 5 years to 67.3 percent at 7 years. The percentage rose slowly thereafter to a peak of 80 percent of children affected at 11 years of age.[5]

In studies made more recently in the U.S. Navy, 79 percent of 18 to 23-year-old recruits had a recognizable gingivitis at the time of examination.[6]

Vincent's infection (trench mouth) is another type of gingivitis that deserves special mention because of its serious nature in certain instances. Although several types of microorganisms are involved, the specific cause is not clearly understood. It is doubtful whether the disease is communicable. Vincent's infection is accompanied by pain and ulceration which interfere with chewing and toothbrushing. The gums bleed easily, and the breath has a foul odor. Although dietary deficiency, low tissue resistance to infection, and endocrine disturbances may be contributing causes, local irritations and poor oral hygiene are predominant factors. Treatment is concentrated mainly on the removal of irritants, calculus, and other debris; painstaking mouth cleansing; and the use of antibiotics.

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[4] McCall, J. O. "The Periodontist Looks at Children's Dentistry." *Journal of the American Dental Association* 20: 15; January 1933.

[5] Massler, Maury; Schour, Isaac; and Chopra, Baldev. "Occurrence of Gingivitis in Suburban School Children." *Journal of Periodontology* 21: 146; December 1943.

[6] The Dental Research Laboratory, Dental Department, U.S. Naval Training Center, Bainbridge, Md., *op. cit.*

Cleft Lip and Cleft Palate

Cleft lip and cleft palate present serious obstacles to children unless corrected. Research by Grace indicates that a cleft (or clefts) occurs in 1 of every 800 births and that the condition is more common in males than in females.[7] Studies by Graber[8] and Haggerty[9] show incidence ratios of 1 in 700 and 1 in 650 births.

Children with cleft lip or cleft palate are handicapped in chewing, in speech, and in social adaptations. The condition is usually recognized at birth and should receive early attention. A cleft lip should be surgically repaired, a procedure which is desirable as soon as an infant has regained his birth weight. Repair of a cleft palate can take place at a later time; some dental-medical teams accomplish it before eruption of any permanent teeth, while others wait until a later time.

CAUSES AND PREVENTION OF CARIES

Dental caries, today the most prevalent of all physical defects in children, can be greatly reduced in the years immediately ahead. Its general causes are known and, although it cannot be entirely prevented, its occurrence can be markedly decreased through the use of preventive procedures, the effectiveness of which have been scientifically proved. These procedures are water fluoridation, topical fluoride applications, toothbrushing, and decreased consumption of easily and quickly fermentable carbohydrate foods, particularly candy and other sugar products.

The Cause of Tooth Decay

Dental caries is a decalcification of enamel and dentin caused by the action of bacteria on particles of carbohydrate food, particularly sugar. Sugar may be ingested in the form of refined sugar, candy, or sweetened drinks; small amounts may be formed by the partial digestion in the mouth of other carbohydrate food. The action of bacteria on sugar produces acids which are capable of dissolving tooth structure. The extent of damage depends on the length of time the acids are in contact with the teeth, the capacity of the saliva to neutralize the acid, and the presence of dental plaques. The latter are gluey, gelatin-like substances that adhere to teeth and provide an excellent environment for bacterial growth and action. Dental decay begins under a dental plaque.

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[7] Grace, L. G. "Frequency of Occurrence of Cleft Palates and Hare Lips." *Journal of Dental Research* 22: 495; December 1943.

[8] Graber, T. M. "The Congenital Cleft Palate Deformity." *Journal of the American Dental Association* 48: 375; April 1954.

[9] Haggerty, Robert F. "Cleft Lip Repair. Its Orthodontic Significance." *Angle Orthodontist* 26: 1; January 1957.

Recent experiments on "germ-free" animals support the conclusion that dental caries does not occur when bacteria are not present in the mouth. It is known also that a suitable food for bacteria is a prerequisite.

A few investigators still support, in part at least, a theory that dental caries is a manifestation of nutritional deficiency or a disturbance of metabolism caused by a faulty diet which results in unsound and caries-susceptible teeth. Extensive research has not provided evidence to support this theory. On the contrary, it has been reported that—

> No relationship has been demonstrated between the intake or assimilation of calcium, phosphorous, or acid base dietary values or between any other nutritional principles and the activity of dental caries. No evidence was found which indicates that dental caries is a manifestation of malnutrition or that it may be prevented by the feeding of adequate diets unless carbohydrates are definitely restricted.[10]

The foregoing should not be construed as skepticism concerning the importance of nutrition to dental health. Proper foods in adequate quantity are essential for growth and development of the teeth, gums, bones, and muscles. But the only element which has been demonstrated to be important in the development of caries-resistant enamel is fluorine.

While teeth are developing within the jaws they need adequate amounts of proteins, minerals, fats, and other food elements. The cells that form the teeth and bones need calcium. Once calcification is completed, usually by age 8 except for the third molars, there is little evidence that the enamel can benefit from this nutrient. Teeth, therefore, are different from bone since bone cells need calcium throughout life.

Fluoridation of Public Water Supplies

The expression "fluoridation of the water supply" refers to an adjustment of the fluoride content of water deficient in this substance so that it will contain an optimum amount. Fluoridation of the public water supply is now scientifically accepted as a practical and safe procedure for preventing as much as 60 percent of dental caries in those persons who drink it from birth.[11] Fluoridation of water supplies offers the greatest hope for preventing caries because it makes fluoridated water available to large numbers of people at relatively low cost.

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[10] Bunting, Russell W., editor. *Oral Hygiene.* Philadelphia: Lea and Febiger, 1957. p. 157.

For more than three decades it has been known that the teeth of persons who regularly consume water containing an optimum amount of fluoride have an unusual resistance to tooth decay. There is approximately three times as much dental caries in children who use fluoride-deficient water as in children who are born and reared in communities whose water supplies contain the optimum concentration of about one part per million of fluorine.

As a result of controlled scientific research, it is known that all children living in a community benefit from fluoridation of the public water supply. Children who regularly drink water containing the optimum amount of fluoride from birth will receive the greatest benefit. The protection against caries continues throughout life. Children who are older when they begin drinking fluoridated water will receive substantial protection against dental caries but not as much as the younger children.

Fluoridation does not affect the taste, odor, or color of water; nor does it cause any interference with the domestic or industrial uses of water. Fluoridation is inexpensive, the cost varying in different areas from about 5 to 14 cents a year per person.

Although the mechanism by which fluoride prevents dental caries has not been definitely established, it is believed that fluoride produces a tooth structure that is more resistant to mouth acids. It is possible, also, that fluoride inhibits the bacterial or enzymatic processes involved in the formation of mouth acids.

Too much fluoride in the drinking water results in a condition known as dental fluorosis or "mottled enamel," sometimes accompanied by staining of the teeth. With the exception of this condition in areas with excessive fluoride, no scientist has found any harmful effects on health from drinking fluoride bearing water. Millions of people for generations have used water which naturally contains fluorides. In some communities the natural fluoride concentration in water is from two to five times higher than that recommended for public water supplies. The only ill effect found in even the highest fluoride areas is dental fluorosis. Interestingly, where this condition occurs the teeth are highly resistant to caries.

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[11] Blayney, J. R. "Economy of Water Fluoridation." *Journal of the American Dental Association* 65: 595; November 1962.

Many scientific bodies and other organizations concerned with public health have recommended fluoridation of public water supplies as a desirable and safe procedure. These organizations include the American Dental Association, American Medical Association, American Public Health Association, National Research Council, U. S. Public Health Service, State and Territorial Dental Health Directors, and Association of State and Territorial Health Officers.

Teachers and other school personnel, as leaders in a community, should become well informed concerning fluoridation and should give support to all agencies and groups interested in obtaining the benefit of water fluoridation for the children and future adults of the community.

Topical Applications of Fluoride

Another preventive procedure involves the application of a fluoride solution to the teeth of children. This procedure will reduce the incidence of caries by approximately 40 percent. Topical fluoride applications should be available to any child who does not have access to fluoridated water.

Research workers differ concerning the value of topical application of fluorides to the teeth of children born and reared in fluoride areas. Some report additional caries reduction while others report no significant change in expected reductions in decay.

Fluorides are also introduced as a dietary supplement by prescription of a dentist or physician. Studies have indicated that these fluorides, in tablet or liquid form, can help develop resistance to tooth decay if taken continuously by a child during the period from birth to at least 8 or 10 years of age.

Toothbrushing

Removal of carbohydrate material from the teeth by proper toothbrushing aids materially in preventing caries. In order to obtain maximum benefit, it is necessary to brush the teeth within a few minutes after eating. Acids form rapidly after carbohydrate foods, especially those containing a high concentration of sugar, are taken into the mouth and reach a maximum concentration within 20 to 30 minutes. Within an hour and a half conditions return to their original state, and the attack of caries is over for the moment.

Toothbrushing helps to keep teeth clean and attractive, contributes to caries prevention, and aids in the prevention and control of gum disorders.

Dentifrices containing substances especially designed to prevent dental caries have been widely advertised. The value of these preparations must be established by carefully controlled research studies. These studies are evaluated by the Council on Dental Therapeutics of the American Dental Association on request of the manufacturer. Information from the Council is available to all dentists for their use in recommending a dentifrice to patients.

Reduction of Sugar Consumption

Although carbohydrates are important constituents of a well-balanced diet, the excessive and frequent use of foods containing a high concentration of sugar is harmful to teeth. Excellent results in caries reduction have been obtained by decreasing the consumption of such sweet foods as candies, syrups, jams, jellies, confections, and sweetened beverages.

Schools can help children safeguard their teeth by discontinuing the practice of selling or distributing candy and sweet beverages on school premises. The importance of preventing ill health through the careful selection of meals and between-meal snacks has not received the attention it deserves. Nevertheless, a number of organizations interested in the health of school children have offered suggestions relating to this problem.

The House of Delegates of the American Dental Association adopted the following as a part of a resolution on sugar and dental caries:

> *Whereas* convincing evidence has been accumulated over many years concerning the hazards to dental health resulting from the consumption of sugar, and
>
> *Whereas* a recent report adopted by the Council on Dental Health and the Council on Dental Therapeutics provides a comprehensive review of the published evidence of the dental hazards of high levels of sugar consumption, therefore, in the interest of public health be it
>
> **Resolved* that the Association recommend that dental societies call to the attention of school administrators the need for eliminating from the schools the sale of sweetened beverages and confections.[21]

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* Sale of sugar-containing drinks and other confections in schools, especially through dispensing devices, encourages the between-meal consumption of sugar-rich products. It is the between-meal use of sugar which is believed to be especially hazardous to dental health.

[21] American Dental Association Transactions, 94th Annual Session. Chicago: the Association, 1953. p. 225.

The Council on Foods and Nutrition of the American Medical Association prepared a statement on "Confections and Carbonated Beverages in Schools." Its statement is as follows:

> One of the functions of a school lunch program is to provide training in sound food habits. The sale of foods, confections, and beverages in lunchrooms, recreation rooms, and other school facilities influences directly the food habits of students. Every effort should be extended to encourage students to adopt and enjoy good food habits. The availability of confections and carbonated beverages on school premises may tempt children to spend lunch money for them and lead to poor food habits. Their high energy value and continual availability are likely to affect children's appetites for regular meals. Expenditure for carbonated beverages and most confections yields a nutritional return greatly inferior to that from milk, fruit, and other foods included in the basic food groups. When given a choice between carbonated beverages and milk or between candy and fruit, a child may choose the less nutritious. In view of these considerations, the Council on Foods and Nutrition is particularly opposed to the sale and distribution of confections and carbonated beverages in school lunchrooms.[illegible]

The National Congress of Parents and Teachers, a group with understandable interest in the health and welfare of children and youth, has expressed its views concerning the sale of carbonated beverages, candy, and other confections. A statement of the Executive Committee of this organization reads:

> The National Congress of Parents and Teachers, aware at all times of the needs of children, has recognized the need for a sound program of nutrition education in the schools by creating the parent-teacher School Lunch Committee. The purpose of the committee is to assist schools in developing a program that will give growing children experience in building sound food habits so necessary for their health and well-being.
>
> The sales of carbonated beverages, candy, and other confections in schools may interfere with effective nutrition education. Many children spend lunch money for these less nutritious foods and are at the same time deprived of valuable learning experience. In this connection we call attention to a similar statement made by the Council on Foods and Nutrition of the American Medical Association.
>
> We recognize that the sale of these items in schools is an administrative problem and that the responsibility of the parent-teacher organization is interpreting to parents the dangers involved in substituting these items for milk and nutritious foods in the child's diet, so that parents will give administrators the backing needed to remedy this situation.
>
> We also rededicate ourselves to the continuing task of providing adequate public support for schools in order that administrators may not feel the pressure for school funds great enough to demand the sale of such items, the

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[illegible] American Medical Association, Council on Foods and Nutrition. "Confections and Carbonated Beverages in Schools." *Journal A.M.A.* 180: 92; June 1962.

> profits from which supply auxiliary funds needed in many schools for enrichment materials.
>
> We have increasing confidence that school administrators in any community, when they have the complete cooperation of parents, can make any change in practice found necessary for the welfare of our children.[14]

Developing school practices in keeping with these resolutions can aid in promoting the dental health of children. However, effective accomplishments will depend on educating children and youth regarding reasons for the practices, thus eliciting their cooperation.

SCHOOL DENTAL HEALTH SERVICE

A school dental health program aims to help children and youth appreciate the importance of a clean mouth, free of disease and abnormalities, and to help them assume responsibility for personal care and for obtaining periodic professional care. The school's role in achieving these objectives involves instruction and counseling.

The extent to which education relating to dental health is supplemented by specific services varies widely, depending in part on the role played by other community agencies. The program for a particular community should be formulated jointly by representatives of parents, school personnel, the health department, and local dental and medical societies. Attention needs to be given to health attitudes, to the advantages and disadvantages of school dental inspections, to types of dental examinations, to adequacy of treatment facilities, and to the dental staff needed by schools.

Dental Health Attitudes

The success of school dental health efforts depends partly on pupils' attitudes toward dental health and toward dentists, attitudes that may develop during the preschool years. Although modern dental treatment is accomplished with less discomfort to the patient than formerly, the fear complex still exists. Thoughtless, exaggerated conversation on the part of parents or of older brothers and sisters, overheard by younger children, creates a fear of dental service which is difficult to overcome. Jokes and cartoons may add to the problem.

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[14] Executive Committee of the National Congress of Parents and Teachers. "Statement Concerning the Sale of Carbonated Beverages, Candy, and Other Confections in Schools Operating Lunch Programs." *National Congress Bulletin* 19: 1; September 1951.

Many children are suffering from a toothache when they make their first visit to the dentist. Thus they come to associate pain with dental care.

Everything possible should be done to encourage parents to obtain periodic dental examinations for children of preschool age. Parent groups should be encouraged to discuss dental health problems under the leadership of a dentist or a dental hygienist and to become informed concerning the care of children's deciduous teeth and the methods for preventing dental defects found in children of preschool age. The importance of six-year molars, the first permanent teeth to erupt, should be emphasized. Preservation of these teeth is essential for future dental health.

Ideally, a child's dental status should be appraised periodically by his family dentist, beginning when all of the child's deciduous teeth have erupted, usually between 2 and 3 years of age. Early dental care enables the dentist to discover and correct defects in their first stages. Subsequent visits at regular intervals permit the dentist to observe the child's dental growth pattern and to detect early symptoms of disease and irregularities. Prompt action will prevent pain, serious complications, and loss of teeth.

A child's first appointment with a dentist should be a pleasant introduction to a new environment and a new personality. It can be free from discomfort if arranged before serious problems occur.

A definite rule as to how often a child should visit a dentist cannot be made. Considerable variation exists among children as well as among adults in mouth cleanliness and in susceptibility to dental disease. All children need to visit a dentist at least once a year, most need to go twice a year, and some even more frequently. The dentist is the best person to advise regarding frequency of examinations.

In some communities the health department, hospital, or other agency provides clinics for the examination and treatment of preschool children from needy families.

Dental Inspections and Examinations for School Children

Children continue to need periodic examinations by a dentist throughout the school years, the time when primary teeth are being replaced with permanent teeth and when dental decay is extremely common.

There is considerable difference of opinion concerning the value of dental inspections conducted in schools on a routine basis. A majority of school children will require dental care at least annually; therefore inspection is of little value as a case-finding procedure.

Some communities, however, feel that school dental inspections are effective in motivating children and parents to obtain complete examinations and necessary treatment. Properly planned and conducted inspections may serve as a basis for dental health education in the classroom, may help build a positive attitude in the child toward dental care, may motivate the child to obtain regular dental care, may serve as a fact-finding experience for pupils, teachers, and dentists, and may provide a baseline for evaluating the school dental health program.

On the other hand, improperly planned and conducted inspections may be accepted by parents as a complete dental examination. A dentist, working in a typical school examining room, can make, at best, only a cursory appraisal of the oral structures. Additionally, it is difficult to get parents to be present during a dental inspection in school. Absence of the parent during the inspection makes an effective follow-up difficult.

In general, schools make their most significant contribution to pupils' dental health by encouraging parents to take children to their own dentist for examination and for such treatment as is necessary. This is done in a variety of ways. A common method is to provide pupils with a form to take to the dentist and to have them return the form following completion of examination and treatment. See Figure I.

This type of an examination program requires some instruction by the teacher before the forms are given to the pupils. Children are instructed to take the forms home and to discuss them with their parents. The dental examination is arranged by the parent or by the child if he is old enough. If no treatment is needed, the dentist signs the form and the child returns it to his teacher. If treatment is needed, arrangements are made with the dentist by the parent. After completion of treatment the dentist signs the card, and the child returns it to the teacher. The parent and the child are responsible for all the arrangements; the only function of the school is to motivate action.

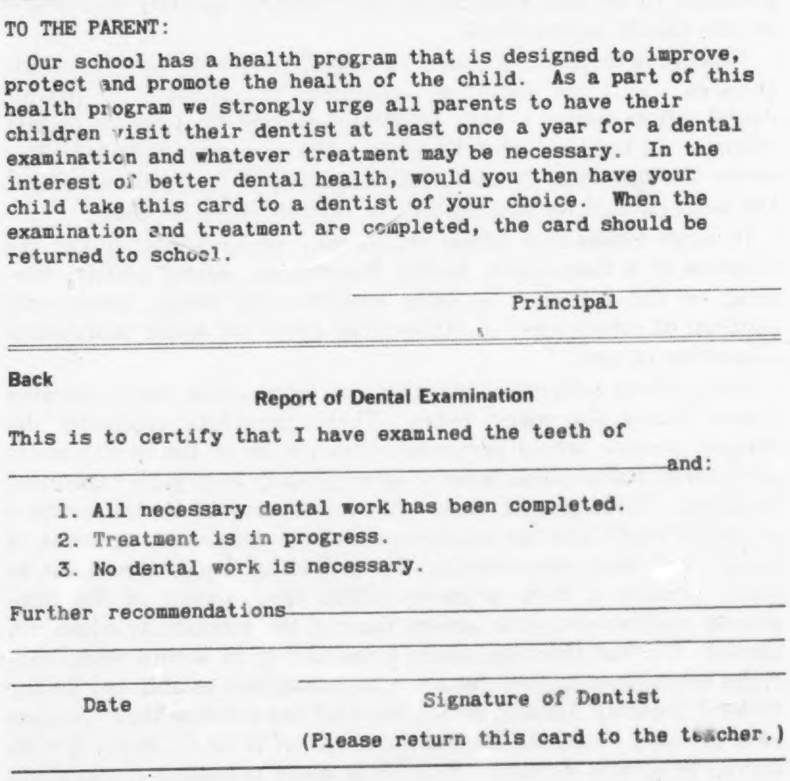
If dental examinations or inspections are conducted in schools, it is important to select carefully the procedure to be used and to note it on reports of results. Unless this is done, it is impossible to evaluate the conditions found or to compare results with those obtained in other communities.

In order to encourage standardized procedures and uniform reporting, the American Dental Association adopted, for use by dentists and other professional personnel, the following classification of dental examinations and inspections:

Type 1. Complete examination, using mouth mirror and explorer, adequate illumination, thorough roentgenographic survey; when indicated, percussion, pulp vitality tests, transilluminations, study models, and laboratory tests.

Type 2. Limited examination, using mouth mirror and explorer, adequate illumination, posterior bitewing roentgenograms; when indicated, periapical roentgenograms.

FIGURE I SAMPLE OF FORM USED TO ENCOURAGE PARENTS TO TAKE THEIR CHILDREN TO A DENTIST



Front

TO THE PARENT:

Our school has a health program that is designed to improve, protect and promote the health of the child. As a part of this health program we strongly urge all parents to have their children visit their dentist at least once a year for a dental examination and whatever treatment may be necessary. In the interest of better dental health, would you then have your child take this card to a dentist of your choice. When the examination and treatment are completed, the card should be returned to school.

____
Principal

Back

Report of Dental Examination

This is to certify that I have examined the teeth of
________________________________and:

1. All necessary dental work has been completed.
2. Treatment is in progress.
3. No dental work is necessary.

Further recommendations________________________

____________ ____________________
Date Signature of Dentist

(Please return this card to the teacher.)

Source:
American Dental Association. *A Dental Health Program for Schools.* Chicago: the Association, 1954. p. 18.

Type 3. Inspection, using mouth mirror and explorer, adequate illumination.[15]

The value of examinations will depend on which of these three types of examinations is used.

Obtaining Treatment for All

It is essential that dental treatment be available for all children in every community, including topical applications of fluoride in communities where the water is not fluoridated. Although most children will receive care from their family dentists, the community should provide treatment for those whose parents cannot afford such services. The school should utilize all community resources to meet the health needs of pupils. If dental care is not available to all, the local health and welfare agencies and dental society should be consulted.

Numerous methods are used in providing dental care for needy children. In some localities, treatment is provided in private dental offices under a plan developed jointly by local or county officials and the local dental society. Use of a mobile dental clinic under the direction of the health department is a procedure that has been carried on successfully in certain rural sections.

In large towns and cities, clinics may be organized under the auspices of a foundation, health department, dental society, hospital, or the schools. In some localities the clinics serve only children of school age; in others they serve all needy individuals regardless of age.

Some school systems, particularly in large cities, have operated dental clinics for many years. These programs originally developed because school personnel were aware of the dental needs of children and no other agency seemed ready to provide treatment facilities. With greater community awareness of the importance of dental health and the expansion of other community agencies, it is now felt that responsibility for providing dental treatment to needy persons is more properly within the purview of the community welfare or health agency than of the community education agency. Current thinking seems to be largely in accord with principles enunciated in 1949 by a special committee established by the Federal Security Agency, which included the premise that "parents have primary responsibility for the health of their children. Health service programs should be designed to assist parents in discharging this responsibility but not assume it for them."[16] The committee further recommended "that clinical facilities should not be set up in school buildings except where the school building is a community center and there is general agreement among all local groups concerned that such location provides the best solution for the specific community."[16]

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[15] American Dental Association. *A Dental Health Program for Schools.* Chicago: the Association, 1954.

Priorities in Treatment Services

It is not always possible to provide all the dental treatment children need. This situation may occur in private dental offices as well as in public dental clinics. When all necessary treatment cannot be given, dentists may be guided by the following priority classification of services:

For Children:
1. Relief of pain and treatment of acute infections
2. Elimination of pathological conditions and extraction of unsavable teeth
3. Treatment of permanent teeth with exposed vital pulp
4. Treatment of bone and soft tissue diseases and abnormalities
5. Repair of injured or carious permanent teeth
6. Repair of injured or carious primary teeth
7. Prosthodontic and orthodontic services.[17]

Excusing Pupils from School

Since one of the aims of the school program is to help pupils establish habits of making periodic visits to a dentist, it is now common practice to excuse pupils from school to keep dental appointments when this becomes necessary. The justification of such practice, however, is not based solely on educational consideration. In most communities it is impossible for dentists to care for all school children in the relatively small amount of time available during after-school hours and during vacations. Moreover, young children should visit the dentist, whenever possible, in the early part of the day when they and the dentist are less likely to be affected by nervous and physical fatigue.

Abuse of the privilege of making dental appointments during school hours can be minimized by cooperation among teachers, parents, and dentists. Parents and dentists should arrange pupil appointments for out-of-school hours to the greatest extent possible. Time for school-time appointments should be so selected that a pupil will miss as little as possible of his regular school program.

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[16] U.S. Office of Education, Federal Security Agency, Children's Bureau, and Public Health Service. *Priorities in Health Services for Children of School Age.* Washington, D. C.: Government Printing Office, 1949. pp. 2 & 10.

[17] American Dental Association. *Official Policies of the American Dental Association on Dental Health Programs.* Chicago: the Association, 1957. p. 17.

Teachers and other school personnel should realize that a pupil's understanding of health and factors related to health is increased during his visits to a dentist. It is a real, vital, educational experience. The dentist's comments and suggestions may increase the pupil's knowledge concerning teeth and their care and motivate him to follow practices which contribute to good dental health.

The practice of excusing children from school only for emergency dental care is not a wise one. The purpose of making it possible for children to obtain dental care is to avoid dental emergencies and to save teeth. Why wait until pain prevents school achievement, when less time will be lost by preventive care?

School Dental Staff

The type of program a school develops determines the type of dental personnel needed. If the program is primarily an educational one, only consultant services will be necessary; but if inspections are to be made or treatment provided, a staff of dentists and dental hygienists will be required.

In a small community, consultative services may be provided by a committee of the local dental society or a member of the society to whom this responsibility is delegated, preferably one with special interest in children's dentistry. Where a dentist is employed by a health department, he may serve as a dental consultant to the schools. Large school systems sometimes employ a dental consultant. The functions of the consultant should include the following: to serve in an advisory capacity to school officials in all matters dealing with dental health; to give professional advice on special dental health problems of children; to supervise the work of school dental hygienists; and to serve as a liaison between the schools, local dentists, the health department, and other community groups.

Dental hygienists are employed in some school systems, particularly in large communities. There is considerable variation in the duties assigned to them. In general, the hygienist is an assistant to the dentist and works under his supervision. The functions of school dental hygienists have been described as follows:

1. Interpreting children's dental defects to school personnel and parents.
2. Assisting children and parents in making plans for dental corrections.
3. Guiding parents who cannot afford to pay for the dental treatment of their children to community sources of treatment.

4. Assisting teachers in their dental health instruction programs by providing authentic teaching materials, helping plan dental health activities for the classroom and serving as a resource person.
5. Arranging to keep appropriate records or reports of inspections and corrections.
6. Assisting in parent education programs through P.T.A. and other such organizations.
7. Assisting in in-service training programs for teachers in dental health.[18]

In addition, she may carry out the following functions where they are provided for:

1. Giving dental prophylaxis (cleaning the teeth).
2. Assisting in organizing and conducting the dental inspection program.
3. Giving topical application of sodium or stannous fluoride where state laws permit her to do this.[18]

In schools not having hygienists, the provision of assistance to teachers in their dental health education activities and the follow-up of children needing dental care may be assigned to a nurse or health educator. Where neither of these is available, the teacher will need to assume full responsibility for educational and follow-up activities, including encouraging children to visit their dentist.

Working To Improve Dental Health

The status of dental health of the people of our nation is not yet satisfactory. There is evidence, however, that a greater percentage of people is receiving dental care than ever before. Year after year, more children are receiving the benefits of fluoridation of public water supplies. Dentists are placing more emphasis on preventive measures.

If the control measures currently available were fully utilized, the dental disease problem could be reduced 60 to 70 percent or even more. The utilization of these measures depends primarily on education—education of children and parents.

Schools in the past have played an important part in calling to the attention of children and parents the importance of good dental health. School administrators today have a better understanding of school health, and teachers have better preparation in health and a better appreciation of the importance of good health to learning. Working with parents, dentists, and other health workers, school personnel can contribute much toward the improvement of dental health of school children.

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[18] American Dental Association. *A Dental Health Program for Schools.* Chicago: the Association, 1954. pp. 11-12.

FOR FURTHER READING

AMERICAN DENTAL ASSOCIATION. *A Dental Health Program for Schools.* Chicago: the Association, 1954. 24 pp.

AMERICAN DENTAL ASSOCIATION. *Dental Health Facts for Teachers.* Chicago: the Association, 1960. 30 pp.

AMERICAN DENTAL ASSOCIATION. *Teeth, Health and Appearance.* Chicago: the Association, 1961. 48 pp.

AMERICAN DENTAL ASSOCIATION, THE COUNCIL ON DENTAL HEALTH AND THE COUNCIL ON DENTAL THERAPEUTICS. "Sugar and Dental Caries: The Effect on Teeth of Sweetened Beverages and Other Sugar-Containing Substances." *Journal of the American Dental Association* 47: 387-415; October 1953.

BLAYNEY, J. F. "Economy of Water Fluoridation." *Journal of the American Dental Association* 65: 595; November 1962.

BUNTING, RUSSELL W. *Oral Hygiene.* Philadelphia: Lea and Febiger, 1957. 334 pp.

DOLLAR, MELVIN L., AND SANDELL, PERRY J. "Dental Programs in Schools." *Journal of School Health* XXI: 3-14; January 1961.

EASLICK, KENNETH A., editor. *Dental Caries.* St. Louis: C. V. Mosby Co., 1948. 234 pp.

PELTON, W. J., AND WISAN, J. D. *Dentistry in Public Health.* Philadelphia: W. B. Saunders Co., 1955. 282 pp.

STOLL, FRANCIS A. *Dental Health Education.* Philadelphia: Lea and Febiger, 1960. 253 pp.

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, PUBLIC HEALTH SERVICE. *Fluoride Drinking Waters.* Publication No. 825–1962. Washington, D.C.: Government Printing Office, 1962. 636 pp.

Chapter **9**

Mental Health Services

Mental health and physical health cannot be separated; each is one aspect of total health. Some mental ill health is caused by such physical factors as endocrine disturbance, inborn errors of metabolism, and detectable or undetectable injury to the brain or nervous system. Conversely, physical illness may be caused, aggravated, or prolonged by mental or emotional complications. Even the disability from a physical injury, defect, or frailty may be more related to the individual's attitudes toward it than to the severity of the physical condition.

The school health program that does not include attention to mental health is incomplete. Just as the physician studies his patient as a total individual in a family and community setting, school personnel should be interested in the total pupil and in all aspects of the school environment that affect his mental or physical health.

Mental health, social health, and emotional health are so closely related that it is often difficult to separate one from the other. Frequently, two of these terms are combined to form such phrases as "mental and emotional health" or "emotional and social health." The term "mental health" has the broadest connotation. Mental health programs include measures to promote emotional and social health, to help individuals afflicted with functional or organic diseases of the brain, and to aid those who are mentally deficient or retarded.

Mental health is revealed by the way a person feels and acts. It is a state of well-being in which he (a) makes optimal use of his unique talents and capacities, (b) copes successfully with the stresses and strains of his environment, (c) attains good relationships with his peers and with those in authoritative or subordinate relationships, and (d) accepts happily a reasonably realistic concept of himself and his role. These concepts clearly indicate the social nature of certain aspects of mental health.

Mental health, as physical health, is not mere absence of specific illness. School efforts must help children and youth to develop balanced personalities and to glow with a resilient, positive outlook on life. They need freedom to develop creative potentials.

The mental health of children and youth is a resultant of the interplay of complex forces exerted in the home, the school, and other parts of the community. This chapter deals primarily with school factors.

THE SCHOOLS AND MENTAL HEALTH

Problems related to mental health are so diverse and of such magnitude that many organizations and agencies are concerned with them. Consequently, it becomes important that the specific role of the schools be identified and that the roles of particular persons in the school be clarified.

Seriousness of the Problem

Evidence that all is not well with the mental health of people in this country and other countries is found on every side. The staggering enrollments in hospitals for the mentally ill, the numerous incapacitating illnesses of psychosomatic origin, the high rates for suicide, divorce, delinquency, and illegitimate births—all of these cause great concern.

Moreover, writers point out widespread maladjustments resulting from the pressures of suburban living and the stresses of corporation competition. They tell of individuals who are goal-less, who feel defeated, and who search for immediate kicks, as illustrated by many street corner gangs in underprivileged districts. Alcoholism and narcotic addiction are tragic conditions which sometimes result from emotional disturbance. Sociological studies of mental illness add fuel to the fire of distress over the magnitude of mental health problems.[1, 2]

The Role of the School

Appalled by this well-documented situation, many persons turn to the schools for a solution to all ills. Some argue that schools, since they have access to practically all children, should dedicate themselves to wiping out mental illness in the next generation. The answer, a rather resounding "no," is beginning to be clarified. The causes of emotional ill health and the sources of emotional strength lie chiefly, though not entirely, outside the school. Until the nation, the community, and the individual family provide a healthful emotional environment for all children, pupils will continue to have

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[1] Pasamanick, B., and others. "A Survey of Mental Disease in an Urban Population." *American Journal of Public Health* 47; August 1957.

[2] Srole, Leo, and others. *Mental Health in the Metropolis: The Midtown Manhattan Study.* New York: McGraw-Hill Book Co., 1962. 428 pp.

problems too deep-seated to be amenable to measures appropriate to the schools. Furthermore, the fact that the primary function of the school is instruction must always be kept in mind.

The school is only one of the agencies of the community capable of making a contribution to the reduction of emotional problems and the promotion of positive mental health. Discernible progress toward sound mental health for the American people as a whole will come when the church and the family become more effective agencies; when the police, the courts, and welfare agencies develop more comprehensive, realistic, and rational procedures; when better procedures for dealing with problems of international relations, race relations, and labor relations are found; when public and private housing is soundly planned; and when hospital facilities for the mentally ill and schools for the mentally retarded are available, where and when needed, and when rehabilitative services rather than just custodial programs are provided.

America is making progress on many fronts, but the most optimistic individual could not deny that sore spots in our economic and social fabric will continue to act for many years as foci of infection for emotional problems. To those who labor in the schools, this means not that we throw up our hands helplessly in the face of overwhelming problems, but that we dig in courageously for the long pull, convinced that although we cannot do the entire job, we can do much; convinced that we will find faithful allies in many other areas of community life to work with us as we open the channels of communication; and convinced that the ideal of optimal mental health for all is one to which we should be devoted.

What then is the role of the school? If it cannot wipe out mental illness, and must keep instruction in the forefront of its goals, what should it do about mental health? The answer, developed in more detail in this entire chapter, is that the school can do much, that school people and the communities that support and give direction to schools are determined that it shall do more than it has, and that school personnel will increasingly look to medical and allied workers, both for assistance and for consultation.

In general terms, school mental health services will be designed—

1. To promote positive mental health in all children and youth.
2. To prevent emotional disturbances.
3. To help pupils with emotional problems.

Roles of Different Persons

Procedures to promote mental health permeate every aspect of the activities of schools; they are so pervasive that responsibility cannot be assigned solely to one department or one type of personnel. Every employee, from the superintendent in his office, to the teacher in his classroom, to the custodian sweeping the hallway, has concern for activities that affect mental health. In schools which have the services of physicians, nurses, health educators, psychologists, social workers, or guidance teachers, these persons will have specific responsibilities in services related to mental health.

Although everyone shares in procedures aimed at protecting and improving mental health, it must be recognized that all persons do not have the promotion of health as their chief purpose. The teacher has effective instruction as a primary goal; the custodian sets his sights on the provision of an environment conducive to comfort and effective learning; and the administrator must plan, organize, staff, supervise, and integrate a total school program. Only the physician, nurse, health educator, and other health personnel serving the school have the opportunity to put health concerns ahead of all others. From them should come leadership in promoting mental health.

School health personnel work at three levels. For some aspects of the school program, they carry primary responsibility; for other aspects with obvious relationship to health, they are directly and frequently consulted by other school staff; for still broader aspects of school policy and procedure, they maintain a general interest and call attention to the health implications of various practices, procedures, and policies.

The more clearly these operational levels are marked out and understood, the more smoothly the program will function. Health personnel will see their role as supportive to the teacher and others in their primary responsibilities. The teacher will understand that health personnel have a legitimate interest in and a contribution to make to his methods of classroom management, a contribution that is presented in a consultative and advisory manner, not a dictatorial or supervisory one. The administrator will consider a suggestion from the health staff on teacher personnel practices or pupil classification as a desirable extension of concern by these persons for the total mental health atmosphere of the school, not as an invasion of administrative authority.

PROMOTING POSITIVE MENTAL HEALTH

Practically everything that contributes to a good school system contributes to the mental health of pupils and teachers. The buildings, the personnel practices, the staffing policies, the curriculum, the availability of instructional materials and supplies, the attitude of the community and of the board, all are important. If children with good mental health are to maintain that health and move from average good health to glowing, strong personalities, secure in themselves and able to cope with the stresses of today and tomorrow, the total school climate is of crucial importance. In every respect the school must present an environment conducive to healthful growth and development.

Physical Facilities

If there are not enough seats to go around and children are crowded into classrooms, or if the school is run in two shifts, stresses are engendered. A classroom that is too dark or too full of glare, over or underheated, or poorly ventilated will create emotional stresses as well as physical problems. The teacher who has the space and tools he needs in his classroom, provisions for a few minutes' privacy during the day, and a quiet lunch hour can go about his work with a confidence and enthusiasm that will bring results in the attitudes of pupils as well as in their scores on achievement tests.

One reason for attention to the physical facilities of the school is the effect of such facilities on the mental health of pupils. (See Chapter 12, "Services Related to Environmental Sanitation.")

Personnel Practices and Staffing Policies

Nothing is more directly related to the emotional climate of a school than the quality and quantity of its staff. Well-trained, well-paid, respected staff members have the security that gives them emotional stability and strength. It is as important to have selection procedures that screen out the applicant with unsound personality as to screen out the one with tuberculosis. Teachers, administrators, custodians, and other employees are as likely to develop mental ill health as any other group in the community. School personnel practices can be greatly improved in the direction of early recognition of symptoms of mental breakdown and humane and realistic procedures for getting help to the employee while protecting the interests of children. The medical, psychological, and social work professions have contributions to make to staff personnel practices as well as to pupil personnel.

Decisions as to pupil-teacher ratios and as to provision of auxiliary personnel in health, guidance, remedial clinics, psychiatric consultation, and a variety of other areas affect the emotional climate as well as the instructional effectiveness of a school. In many ways, large and small, the decisions of a school board or of an administrator also have far-reaching results. By resistance to political pressures, they can increase the respect of the community for the schools; by democratic involvement of the staff in planning, they raise morale; by effective communication, they promote understanding among taxpayers, parents, and school employees. Teachers may get good results in spite of inadequate facilities if they have confidence in their leaders, a conviction that the community is behind them, and evidence that measures to improve conditions are honestly being pursued.

All these matters are obviously the concern of the total school program, particularly of the board of education and the administrators. The school health staff, however, by the very fact of their relative detachment from some of the immediate problems, may have a perspective and a viewpoint that renders their advice particularly valuable. It would be presumptuous indeed for this group alone to attempt to give the answers. Equally negligent would it be for both sides if the special insights which a health background might give were not sought and contributed, both in over-all planning and in day-to-day decisions affecting the schools.

Curriculum

The mental health implications of the curriculum are manifold. The curriculum must be realistic in terms of the needs of the community and of the pupils, or children will lose their sense of purposefulness. It must be tough and challenging, to stretch the intellectual muscles of the bright. It must be flexible, to leave room for the development of creative imagination. It must be varied, to provide a measure of success for the very slow and to develop the wide range of abilities America needs. It cannot dodge issues. America's future citizens must know about communism if they are to face its challenge. They must know the history of the Indian, the Negro, the Mexican, and the Oriental in our society, as well as of the waves of European immigrants from Plymouth Rock down. In health and biology classes it is as important to study one set of internal organs as another. In the communication arts, good speech is as important as accurate writing, and intelligent listening and viewing skills must be taught along with reading skills.

Specifically, curriculums are giving increased emphasis to helping the child understand himself, his behavior, his relationship to his family and peers and community, his likenesses and differences. Increasingly instructional materials with these goals are becoming available, from very simple stories for primary children to sophisticated presentations for the high school seniors beginning to look to problems of adult living.

The concern of the curriculum developers for mental health is reflected in modern textbooks. If the school physician, nurse, or other health staff member has not looked at elementary school textbooks since his own school days, he may profit from close study of recent series of textbooks in health, in science, and in social studies. Modern youngsters are absorbing psychological and physiological concepts from first grade on. For example, various series of health books for primary grade pupils include information on appreciating help given by parents, giving assistance to younger children and those less able, and accepting differences in physical size and mental ability. Pupils in the intermediate grades enlarge their understanding of emotional health through reading about and discussing feelings and the way feelings influence behavior, learning desirable ways to express feelings, and gaining ideas about their own role and that of families and friends. Presentation of concepts relating to mental health are combined with information concerning other aspects of health.

At the junior and senior high school level, pupils may gain increased knowledge and understanding of mental health in a health course or in other courses. The health course may include discussion of the functioning of the brain and nervous system, the role of the endocrine glands, human growth and development, the effect of feelings on behavior, and the hazards of narcotics and drugs. In many instances, mental illness will be considered and an effort made to help pupils learn that the mentally ill need medical care and sympathy in a manner comparable to those with other sicknesses. Good textbooks on psychology for high school students are now available. Instruction related to mental health may be included in courses in health, science, social studies, or home arts.

The Role of Method

The relationship of classroom methodology to mental health has been discussed so often that little more than a summary is needed here. Basic among the tenets of modern education are the need for attention to individual differences and the need of every individual for some success and for materials of instruction appropriate to his capacity. We know that challenge can be provided for both the bright and the dull by encouraging the pupil to beat his own record, by stimulating the native curiosity that is the birthright of every child, by setting tasks that stretch the abilities of the individual but not to the breaking point. We have evidence of the value of having children associate for part of the school program with those of their own ability level, so that the bright may rub elbows with others of equal keenness and the slow may experience the joy of full participation in the work of a group of their peers. There is equal value in having children associate for another part of the school program with a mixed group, one in which appreciation for a variety of values other than academic success can be developed and in which leadership and followership can be practiced.

We know that children must have time to grow and that maturity must prepare the ground before it is wise to begin some types of instruction. We know that children need love, affection, and security, but also need experience in meeting frustrations and defeat. The latter should help them to develop tolerance for the problems that life presents but should not cause them to retreat from further effort or grind in a belief in their own inadequacy or inferiority.

Rewards and penalties must be immediate and obviously related to the act if they are to be effective stimulants to learning. For certain aspects of instruction we see values of new programed learning materials, with their built-in immediacy of reaction to pupils' learning activity. We know the value of interaction in small groups in other aspects of instruction, the value of carefully developed audiovisual presentations, and the success of lecture-demonstrations presented by a teacher talented in reaching large groups. We know the value of variety, so that no one method, however good in itself, is used to the point of diminishing returns.

The principles of mental health that guide decisions about classroom methods are common property of the professions of medicine, education, psychology, social work, and others that deal with human beings. No profession uses its demonstrated facts or substantiated principles optimally; each profession has much to learn from further basic research and practical experience. Psychologists and social workers are perhaps more prone than physicians to feel that they hold some basic understandings in these areas of which educators are ignorant. Effective work of the entire school health team will come as each profession becomes aware of the growing sophistication of the others, as each sees that fruitful application comes from working together on common problems rather than from pronouncements based on a priori theory.

Guidance Programs

The rapid emergence and expansion of guidance programs in the schools is one of the most dramatic of postwar educational developments. Basically, guidance is a curriculum function inherent in the total purpose of the school and the goals of each classroom. It is primarily the process of helping individuals (whether they be pupils, parents, or teachers) to understand themselves and their environment and therefore to become able to make wise decisions for themselves with respect to educational choices, occupational choices, or personal problems. This has long been seen as a basic educational goal, widely recognized long before there were guidance specialists in the schools.

Guidance, both as an integral part of classroom curriculum and method and as supplemented by efforts of special personnel, is concerned with promoting positive mental health. It aims to release the unused potential of each individual pupil. It hopes to assist parents and children to make choices, educational and personal, that will not lead to later difficulties. Hopefully, this positive aspect should absorb a major part of the energies that the school staff devotes to the guidance function. Guidance services rendered to an individual after emotional problems have become obvious will be discussed in a later section of this chapter.

Particularly in its positive aspects, the major responsibility for guidance is now on, and will remain on, the classroom teacher. His ability to discharge this responsibility and the help he gets relative to it from others in the school system will greatly influence the emotional health of individual pupils and the entire student body.

Education for Emotionally Disturbed Pupils

Specific education provisions for emotionally disturbed pupils will be discussed later in relation to the effects of such efforts on disturbed children. Here it should be noted that adequate educational programs for disturbed pupils promote the positive emotional health of the entire class or school. Proper care of emotionally disturbed pupils relieves regular classroom teachers of pupils with whom they cannot cope, or at least with whom they cannot cope without neglecting other pupils. It removes the disturbed pupil from close and constant contact with a normal group, the latter including, of course, children with borderline susceptibility to emotional disturbance.

PREVENTING EMOTIONAL DISTURBANCES

Prevention of emotional ill health may be carried on at several levels. Primary prevention lies in the provision of the healthful environment discussed in the preceding section, where the emphasis is on promoting optimal personality growth for each pupil. This section is more concerned with secondary prevention; with activities aimed at reduction of existing stresses and removal of known blocks, with early recognition of vulnerable children, and with providing special help before overt disturbance manifests itself.

Evaluation of Pupils' Ability

All school planning must be based on an honest evaluation of a pupil's ability in each of many areas, an evaluation as accurate as is possible. On the basis of evaluation, grouping is recommended or not, curricular content is selected, methods changed. Such evaluation is difficult and complex and subject to error, especially at the early ages where it is most important.

Because the tools of measurement are not perfect, some recent writers have urged that all test data be ignored and that teaching be based on the assumption that all pupils can learn at an average rate if the teacher is but skilled enough. This is to "throw the baby out with the bath water." *The solution is rather to evaluate the tests as well as the pupil.* The teacher must have skill in utilizing data without prejudice and a keen eye for clues that point to ability above the measured potential. The school program must be flexible enough to allow for rapid correction of errors in placement or in educational diagnosis.

Parents should be partners, to the extent of their capacities, in the evaluation. They are entitled to honest, realistic information, couched in everyday terms, on the results of evaluative procedures. They have insights and information about the child's developmental pattern and insights into his unique capacities which should not be ignored. True, the educator must evaluate the information given by the parent in the light of probable prejudices, but so must he evaluate the information from a test battery in the light of its fairness toward specific conditions. Neither source of data is ignored because neither is 100-percent accurate.

Parent Counseling

Most parents are appreciative of the services of the school. They generally are eager for help in guiding the child's development and supportive of the decisions of the teacher and the school. Differences of opinion and of attitude do arise, however, and must be handled with skill, perseverance, and honesty.

Some parents push their children far too hard, insisting on a level of academic achievement (or musical or artistic achievement, or athletic prominence, or social popularity) which is an unrealistic goal for the child concerned. Other parents protect, baby, and coddle a child to an equally detrimental extent; these parents take the child's part in resisting efforts of the school to get him to work up to capacity. They may allow him to stay at home for the most minor of complaints or even subtly encourage the development of "school phobias" or of psychosomatic symptoms of illness. Still others are too preoccupied by their own personal problems, immaturities, illnesses, or addictions to give the child either the love and attention or the discipline and instruction that he needs.

Parents can be helped in varying degrees by school personnel. Some can profit from formal parent-education programs, seminars, discussion groups, lectures, and demonstrations. More can benefit from continued counseling.

With a problem of any seriousness, little can be accomplished in one counseling interview with parents. The school must be adequately staffed so that a principal, teacher, or counselor can have the time, freedom, and privacy to talk at length with a parent, repeatedly, over a period of years perhaps. An idea that is scornfully or emotionally rejected at first may eventually become part of the parent's own perception of the problem. If there is time to listen, the enraged parent who comes storming into school sure that everyone is picking on his darling may talk himself out and come to the point of admitting that he never could do anything with Johnny himself. In this manner a basis for working together on a mutual problem is established. Almost more difficult is the glib parent who has read all the child-care books, attended innumerable lectures, and knows all the right answers, but is as fundamentally unable to accept a realistic appraisal of her child's needs as is the most violent and voluble mother.

The parent, like the child, may be covering anxiety and fears with defensive reactions. He may need support, encouragement, or relief from an unexpressed feeling of personal guilt. He may need assurance that he is respected as a person. Honesty must sometimes be very blunt indeed, for the disturbed parent may seize on every kind word any school person utters about his child and use it to help himself forget or deny any undesired estimate. Careful evaluation of the child or of the parent's contribution to the child's problem may be harsh medicine. It must be given with respect for the parent as a person, with feeling for his difficulties. It may not be accepted the first or the fifth time, but if the educator has refused to react negatively to what may have amounted to an emotional attack on himself or a colleague, the door is left open for further conferences which may gradually bring about changes in attitude and behavior.

Educational Planning

Some emotional difficulties can be prevented from arising by prompt and effective educational planning. The bright child must be challenged, his curiosity awakened, and the joy of mastery of a difficult problem experienced before he becomes bored and restless and indifferent. The slow child must have tasks set in which he can find success and satisfaction before he becomes convinced of his inability to do school work. This change of pace may be achieved within the classroom by a skilled teacher. For more extreme deviations in either direction, and especially for older groups, it may be best achieved in at least partial programming into classes organized according to abilities. (See Chapter 7, "Meeting the Needs of Exceptional Pupils.")

Other emotional difficulties can be prevented by intelligent and thoughtful handling of first deviations. A first truancy, an outburst of temper of a severity unrelated to the precipitating event, a drop in achievement, or a change from a sunny to a depressed or lethargic attitude with refusal to do assigned work may have to be met by immediate disciplinary action. Such action should be firm; it should be based on refusal to accept the behavior while convincing the pupil that he, as an individual, is still accepted. Primarily, these types of behavior call for inquiry, a delicate probing to find the cause.

Early Identification of Pupils with Emotional Problems

Serious emotional problems present symptoms most of which are obvious and, in fact, cannot be ignored by the school. Persistent failure to learn in spite of evidence of adequate ability; truancy; lethargy; failure to attempt assignments; aggressive or provocative behavior toward teacher or school authorities; behavior dangerous to other children or to himself; theft, cruelty, promiscuity, or any legal delinquency—these are symptoms that may be difficult to understand but certainly not to recognize.

Important, however, is the identification of the vulnerable child before the symptoms become too serious. Early identification refers both to study of the young child and also to the early recognition of illness or trauma which may develop at the vulnerable adolescent or preadolescent period, or at any stage.

Most schools today have screening programs for intellectual and physical deviations. They routinely provide group intelligence tests, not because a very low or very high score automatically picks out a moron or a genius, but because the scores screen out pupils needing further study. They routinely give vision and hearing screening tests to detect children who may have defects in perception that would escape the teacher's notice. They use achievement tests to see if a pupil is working up to capacity, as a supplement to the teacher's judgment of the child's progress.

School people know full well that all these devices give "false positives" as well as "false negatives." A child may pass the vision test with flying colors, but have a serious defect of a specific nature which does not interfere with his reading the Snellen chart at 20 feet. Another child may appear to have almost no hearing on an audiometric survey because he failed to understand the directions or just did not want to cooperate that day. On an "objective" test of intelligence or achievement, a pupil may have a lucky day and get a high score through a series of lucky guesses—or a timely glance at the paper of a proficient neighbor. Or his intelligence score may be depressed by cultural deprivation or emotional disturbance—or inability to read. All such scores are critically evaluated, interpreted in the light of the total picture of the pupil's behavior and personality. Used thus wisely, they have proved of great value in improving understanding of pupils' needs—making a first selection of those needing more intensive study.

To date only a few schools have adopted formal screening programs for early identification of emotional problems. Available instruments for screening children who are potentially vulnerable to maladjustment are newer than those used for other kinds of health problems and have been less well validated. In fact, only recently have really hopeful leads been opened up. Now there are useful rating scales which teachers can check for specific age groups. Sociometric techniques and other devices in which children rate each other are showing promise. Teachers are being given inservice training and preservice training in recognizing symptoms justifying referral of a pupil to members of the guidance or health team in the school, to community agencies, or to the medical profession. The fear of false identification may be dissipated if results of screening for emotional difficulties are treated as wisely as is the best practice for other types of screening programs. The extensive research of Bower[3,4] and his colleagues in California has validated one set of screening techniques for use with primary children.

Certain indications of emotional problems are readily observable by teachers. A record of these, even of a degree not presently considered serious, should be preserved in each child's cumulative record folder so that changes may be noted or the persistence of an apparently minor symptom observed. Review of a child's history may warrant referral for symptoms which in themselves might not seem to call for professional help beyond that of the classroom teacher. When observations are noted on pupils' cumulative records, the descriptions should be precise in terms of data directly observable by the teacher. Specific behaviors rather than descriptive categories are noted.

Observation of Pupil Behavior

Before listing observations that indicate possible emotional disturbance, a word of caution is essential. Observations need interpretation and evaluation; no judgment should be based on a single observation or without considering all factors that influence a pupil's emotional health. Every pupil may exhibit types of behavior indicative of emotional problems at one time or another. Some types of behavior, even in exaggerated form, are on occasion entirely normal reactions to physical and social situations. For example, a pupil may be irritable because he is hungry; sleepy because he was up all night; foul-mouthed because that is the way everyone in his family talks; or fearful for realistic reasons. He may be aggressive in response to great provocation; unhappy because of the loss of a loved one or because of the green apple in his tummy; dirty because his mother has drunk up the ADC check.

Observations that provide clues to the emotional health of pupils may relate to educational progress, physical appearance or behavior, social behavior, personal behavior, or violations of the law. The teacher should be alert to each of these categories. Among the signs and symptoms he may observe are the following:

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[3] Bower, E. M., and Lambert, N. M. *Teachers Manual for In-School Screening of Children with Emotional Handicaps.* Princeton, N.J.: Educational Testing Service, 1961.

[4] Bower, E. M. *Early Identification of Emotionally Handicapped Children in School.* Springfield, Ill.: Charles C. Thomas, 1960. 120 pp.

Educational progress

- Failure to achieve in proportion to probable capacity
- Marked disparity in achievement in various areas: e.g., a unique disability or conspicuous talent in writing, spelling, reading, or arithmetic, as compared to achievement in other subjects
- Gradual deterioration or marked sudden drop in educational achievement
- Poor memory
- Poor retention of material apparently learned
- Poor reasoning ability
- Disorderly and careless work
- Refusal or failure to complete assignments, unrelated to ability
- Meticulous neatness and compulsive orderliness so that work is never finished to a child's satisfaction
- Lack of interest or motivation
- Intense ambition, especially if inconsistent with potential.

Physical appearance

- Obesity or underweight
- Restlessness, hyperactivity
- Lethargy, sleepiness, torpidity
- Illnesses that sometimes have psychogenic components: asthma, exzema, ulcerative colitis, etc.
- Poor coordination
- Shambling gait
- Poor posture
- Facial tics or other repetitive mannerisms
- Inconsistent bladder or bowel control
- Lack of personal cleanliness, disorderly appearance
- Compulsive cleanliness and neatness.

Speech and language

- Lying
- Fanciful tales
- Foul language
- Disorganized, bizarre content of speech
- Stuttering
- Lisping
- Very low, very high, or very loud voice
- Indistinct speech.

Social behavior

- Constant seeking for popularity
- Constant seeking for attention
- Withdrawal, shyness
- Bizarre dress or grooming
- Boisterous, noisy behavior
- Behavior irritating to other children
- Aggressive behavior
- Cruelty
- Defacement of property
- Sexual aggression, exhibitionism, provocation
- Immature, babyish behavior

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Fearfulness
Temper tantrums
Daydreaming
Inattention
Unhappiness
Pregnancy.

Personal symptoms (inwardly-directed)

Isolation from the group
Approach to a new situation in a tense, silent manner
Conviction of inferiority or marked difference from his peers
Expectation of failure
Expectation of rejection
Fear of loss of affection or attention
Painful confusion about what he is doing
Unrealistic rationalizations of behavior
Preoccupation with personal problems—inward turmoil
Indications of anxiety
Inability to recognize what is expected of him.

Violations of law

Theft in school or community
Truancy from schools
Truancy from home
Fire setting
Traffic violations
Vandalism
Assault.

Observation of pupils' behavior should not result in any pupil being labeled in a manner that belittles or ridicules him or indicates that he belongs in an undesirable group. Respect of each pupil's personality and individuality must be maintained.

Interpreting Observations

The cause for any undesirable behavior or condition will be sought in physical, social, and educational, as well as emotional factors. An emotional handicap, if present at all, may be the primary cause of the difficulty or, more likely, will be found in combination with other causes. Interpretation is a process, usually a team process, of arriving at an understanding of the complex of symptoms—or, more positively, an understanding of the child in his personal, social, and educational environment.

Indications of good mental health should be noted as carefully as those of poor mental health. The child's record should show examples of his creative talents in intellectual, artistic, and mechanical realms; his glowing good health; his leadership; his companionability; and his wide range of intellectual curiosity. It should show his concern for the welfare of others; his ability to organize his thoughts, his work, and his activities; his persistence, determination, and ability to stick to a task in the face of difficulties; his educational achievements above the level usually associated with his IQ test scores. Such positive data are absolutely essential if a present negative symptom is to be seen in true perspective or if a change over a period of years is to be evaluated.

HELPING PUPILS WITH EMOTIONAL PROBLEMS

Identification and interpretation of emotional health problems are of little value unless something is done about them. What can and should be done depends on many factors, including the nature of the problem and the kinds of professional persons available to provide help. In many instances help will be provided by the classroom teacher, with or without assistance from health and guidance personnel. Help may be provided by a school psychologist, school social worker, or school psychiatrist. Certain pupils will be referred to their physicians, a clinic from which they previously received treatment, or a social agency. Sometimes the services of a child guidance clinic will be available.

Help provided in the school setting must be appropriate to the goals, responsibilities, and capacities of an educational program. The school cannot and should not attempt to provide treatment functions unique to the medical profession or to the social and psychological agencies of the community. But within the range of activities suitable for an educational organization, schools can do much and need to expand their facilities, personnel, and understandings so that increasingly effective work can be accomplished.

Help in the Classroom

The majority of emotionally disturbed pupils should remain in regular classrooms. Others, who perhaps could benefit from special placement or even residential treatment, will remain in the regular classroom until exclusion becomes necessary simply because no special facilities are available. These pupils, then, must depend on the regular teacher for insight and help. All those concerned with an emotionally disturbed pupil, from his parents to members of the school health service staff, must cooperate with the teacher to give the pupil optimal assistance. This teacher may be a kindergarten teacher or an intermediate grade teacher, a teacher of a class for the mentally retarded or a high school physics teacher. Every teacher in the school system at every level of the school program can expect to have pupils with some degree of emotional disturbance in his class.

The first essential of service to an emotionally disturbed pupil is a classroom that is good for all pupils. Teaching is essentially a group process. A healthful classroom atmosphere is the product of careful planning and skillful management. Pupils feel secure when they know what to expect. They are proud when they have specific responsibilities for keeping the room attractive in appearance or for taking care of some of the routines connected with instructional processes. They develop confidence when assignments are within their ability range; they develop curiosity and enthusiasm when the program is challengingly difficult and new. In the well-organized classroom there is room for humor and occasional relaxation, for the work is so planned and so interesting that pupils return to their tasks easily and naturally in spite of occasional interruptions.

In any group, even the smallest of special classes, there is pupil interaction that either contributes to or interferes with a good learning climate. The skilled teacher has the group dynamics working with him, not against him. When he encourages the slow pupil or praises the creativity of a gifted one, he makes sure that all members of the class are interested in their classmates, eager and willing to help where help is needed, proud of one pupil's achievement because it reflects on the achievements of the entire room. When assignments differ for different students, as they should, the reasons for these differences must be accepted by the group. When standardized reading test scores or records of progress are charted, the gains made by the least competent pupil may be a source of satisfaction to the entire class. Trivial differences between pupils may be overlooked, but problems serious to a particular pupil are nevertheless worked out to his satisfaction. The teacher must not only be fair to all, but the group must perceive this. Pupils readily recognize that fair treatment does not mean exactly the same treatment for each one, especially if they themselves are engaged in helping one another or contributing to a group project.

Some First Aid Measures

Specialists sometimes argue about whether the teacher should help pupils with emotional problems. Since no contact between individuals is without its effect on each person, the question really is "Does the help the teacher is consciously or unconsciously giving contribute to improvement or deterioration of the emotional stability of the group as a whole, and of a particular child?" The pupil who cannot take the pressures of membership in the group can be given some respite by removing him from the group for specific periods—not by parking him in the hall for punishment, but by providing a corner of the classroom where he can work by himself on a meaningful task. The pupil who needs recognition and reassurance that he is lovable, likable, and valued by others is helped not by a teacher who mouths set phrases or murmurs reassuring words, but by the quiet sharing of little moments. There may be a fleeting smile of understanding, a reassuring touch of a hand with a young child, a moment of genuine interest in small talk with an older one.

Rest also may be important. A cot in a quiet corner off the nurse's office or even in the back of the classroom may be worth its weight in gold to a harassed teaching staff.

Counseling that helps pupils understand themselves and helps parents to accept their children as they are is another first aid measure. Even if it is scheduled during class time, it can demonstrate a genuine interest in the conferee. It makes use of a "listening ear" that is sensitive to the tones and feelings of the individual conferee even more than to the content of what he says.

The teacher soon learns to spot the pupil who frequently becomes disturbed or depressed and keeps an eye open for first signs of increasing tension. Expanding this alertness to a sensitivity to the feeling tone of every pupil each morning enables him to use procedures to reduce tensions, capture interest, or overcome discouragement before difficulties arise.

Other Ways To Help

The pupil whose emotional handicap has been recognized and who fails to respond to measures available to the classroom teacher may be helped by a variety of services available in the school or in the community. Many problems that appear to be chiefly emotional may clear up if underlying problems are solved. The child may need special tutoring from a skilled specialist in remedial reading. Improvement of his speech, through the efforts of a speech therapist, may give him confidence to face other fears or anxieties. A new pair of glasses may relieve the headaches that drove him to restless, irritating behavior. These and many other practical sources of help should be brought to bear if at all possible. Within the school system or the community, the teacher should have channels for referral of children with problems to appropriate sources of treatment.

The help needed, on the other hand, may be specifically in the area of adjustment, when the child must learn to get along with the conditions that exist within his own physical make-up or in his home or community, when children must learn to cope with their anxieties or their hostilities.

The time available for the classroom teacher or the school administrator to talk quietly and individually with a pupil is usually limited. Good modern school programs are increasingly building in time for this function, but the pressures on the school schedule are increasing rather than decreasing. With the trend to the longer school day and the longer school year, perhaps more schools will give teachers at all levels, elementary and secondary, a kind of schedule that encourages relaxed interaction. There are glimmers of hope that automation may reduce the rapidly increasing load of paper work which presently all too often demands every moment of a teacher's oddly designated "free time."

Help from Guidance Personnel

Under the most ideal situation there will be disturbed school children who need more direct help than the teacher can provide. The teacher should be able to refer such pupils to other persons in the school system, with no feeling that the referral implies failure. The first line of referral will usually be to a guidance counselor, a person with an educational background. This person may be designated as an adjustment teacher, counselor, year advisor, or pupil-personnel worker. Most high schools today have at least some guidance staff; many are striving toward Conant's standard of 1 per 500 students; [5] a few favored schools already exceed that ratio. The elementary school is much less likely to have such staff, but the need is widely recognized.

The functions of the guidance staff in relation to promotion of positive mental health and in primary prevention have already been discussed. When guidance serves the emotionally disturbed student, it tends to become clinically oriented. The training of guidance workers in this respect borrows heavily from techniques developed by social work, psychology, and psychiatry, but does not usually provide the depth of training in working with individuals that any of these fields demands. The guidance movement of today, "Guidance with a capital G," has mushroomed rapidly. The very enormity of the pressures facing the schools today makes administrators and teachers eager to shift their burdens to a corps of "guidance workers," hopeful of the new profession's ability to find solutions which the classroom has not been able to find.

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[5] Conant, James B. *The American High School Today.* New York: McGraw-Hill Book Co., 1959. 140 pp.

The rapid acceptance by the schools of the counseling movement is in marked contrast to the slow growth of school psychological, school social work, and school psychiatric services. Today's "guidance expert" is, in most cases, yesterday's teacher, and therefore is not subject to the suspicion with which the educator tends to regard other professionals—a suspicion which has sometimes been more than justified when persons well trained in another field, without appreciation of the realities and the potentialities of the classroom, attempted to transfer into the school clinical procedures appropriate in another setting.

Leaders of the guidance movement today are deeply aware of the dilemma posed by unrealistic expectations imposed on personnel with limited training. They are calling for increased training for guidance personnel, less expectation of the transformation in pupil personality effected by counseling, and an appreciation by the counselor and his teaching colleagues of the limitations of school counseling.

The future of the guidance movement, now stimulated by federal funds available under the National Defense Education Act, may be threatened by the number of teachers with only a few weeks or a summer term of training in pupil-personnel services who are being appointed to positions as counselors. Hopefully, this is a transition stage out of which will emerge a new pupil-personnel profession, a profession composed of persons conversant with the operations of the school and the limitations and opportunities of the school environment as a place to work with people. These individuals need to be well grounded in the techniques of interpersonal consultation, familiar with community resources and organization, and able to work understandingly with family physicians and psychiatrists. Important among the skills needed by this pupil-personnel worker is the ability to recognize when referrals to a more specialized resource are desirable.

Help from Other Personnel

For more specialized help than the guidance counselor can provide, schools are increasingly employing other types of personnel. Among these are the school psychologist, the school social worker, and the school psychiatrist.

Much work needs to be done in clarifying the role of each of these persons in relation to each other, to the pupil, to his family, to his physician, to counselors, and to teachers. It is recognized, however, that each one has a part to play in the promotion of positive mental health and in the preventive practices of the school. The psychologist has special skills in arriving at a differential diagnosis of pupils' educational abilities and personalities. The social worker helps to improve understanding between the school and the home and to bring to the educator an interpretation of the environmental factors contributing to the pupil's behavior pattern. He knows the pitfalls in referral processes and can assist in seeing that all available community resources are brought to bear on a pupil's problems. The psychiatrist, in the few school systems fortunate enough to have direct aid from him, usually limits his activities to consultative work with teachers and other staff members, though his diagnostic and therapeutic skills are invaluable when available time permits him to work with individual children.

The school counselor, the school social worker, the school psychologist, and the school psychiatrist see children and parents. They provide in ways appropriate to their training and skills support for many an unhappy child, release of hostility for many an aggressive child. They offer information and advice within the range of their competencies; they act as listening posts against which troubled persons can pour out their difficulties and gain release from tension in the process; they help individuals to understand themselves by realistic appraisals on objective grounds and by appreciation of the good that lies in every one. They help individuals to accept themselves by the very fact that another has fully accepted them.

Counseling Limitations

Where does counseling appropriate to a school situation end and medical treatment begin? Where is the borderline? At the extremes, answers to these questions are relatively easy. Counseling on educational problems is appropriate; treatment of a schizophrenic child is not. In between the extremes, decisions are not so easy. One adolescent girl may need simple reassurance as to her femininity; another one, outwardly well controlled, may be on the verge of suicide. The responsibility of the school staff for providing help is limited to problems whose roots are in the school environment and to problems susceptible to help from within the instructional framework. Confronted with an emotional crisis, school personnel give such help as any mature and balanced adult would render to a distraught youngster, but they do not take on treatment responsibilities. They refer the child to the family physician, to a clinic, or to a social agency.

Group Counseling

Pupil-personnel workers have found that work with groups can sometimes be as effective as work with individuals. Group counseling may provide broader use for the limited service available. Effective work has been done with groups of parents whose children present somewhat similar problems, where the parents, with some direct help and considerable skilled but unobtrusive leadership, have been able to ventilate their own feelings and give help to each other. Groups set up as glamour clinics for girls or as career conferences for boys, under good leadership, have become effective counseling media.

The school psychologist in the elementary school can help certain youngsters through groups devoted to finger painting or dramatics or team games, in which youngsters learn to accept themselves and each other. But for group as well as individual counseling, the limits of the school setting should be observed. There is no place in the school for play therapy groups in which small children are given opportunity to express their aggressions and anxieties in terms far broader than the classroom can tolerate; or for group therapy sessions with similar freedom for adolescents or adults. Such activities are inappropriate to the purposes of the school, and they would probably be ineffective in the school setting. The confusion resulting from the differing limits in the classroom and in the therapy session could well be intolerable to a disturbed child.

Guidance Clinics

There have been experiments in setting up child guidance clinics operating under school auspices. These are staffed by psychiatrists, psychologists, social workers, and usually some educational personnel and are concerned with the diagnosis and treatment of emotional disorders. Some of these, as in an experiment in New York City,[6] have been sponsored entirely by a school system; more frequently, as in St. Louis,[7] they have been cooperative efforts of the school and a community clinic. Conflicts of roles frequently arise when the clinic is in a school. Parents and children have difficulty separating the authoritarian functions which the school must legally assume in respect to some matters from the therapeutic service being offered. Experience suggests that guidance clinics generally function best as community agencies cooperating with, but not a part of, the school system.

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[6] Thompson, Jean A. "Psychiatric Disorders in School Children." *Journal of School Health* 31: 114-16; April 1961.

[7] Lytton, George J., and others. "The Functions of a Psychiatric Diagnostic Unit in the School System." Digest of papers presented at 36th annual meeting. New York: American Orthopsychiatric Association, 1959.

Help for the Classroom Teacher—Interdisciplinary Cooperation

When school health or pupil-personnel workers give direct service to a pupil in the regular school program, they take him, temporarily and for varying amounts of time, away from the teacher. The goal, of course, is to return him to the classroom more able to cope with his own problems, a better citizen, a better learner, a happier child. The teacher will have to continue to work with the pupil. The teacher should be involved in the entire process of work with the child. He should have helped to formulate the plans for whatever services may have been provided and been kept informed of progress as well as final results. Where this close cooperation is an accomplished reality, the chances for success are greatly increased. Furthermore, such a process becomes a learning experience for both pupil-personnel workers and the teacher. Pupil-personnel workers will have had the advantage of the teacher's insights into the pupil's problems. The teacher will gain perspective that he can apply on his own to another pupil's difficulties.

There never will be enough special personnel to take care of all of the problems of all pupils. Schools are increasingly looking for ways to use available personnel in the fields of human behavior in a manner that will enhance their effectiveness. Such efforts center around helping classroom teachers increase their understanding of the complex array of factors that influence pupils' feelings and behavior. The most effective technique developed to date has been interdisciplinary consultations structured around the problems of individual pupils. Other methods which have been used with varying degrees of success include talks, visual aids, problem-oriented seminars, and bull sessions intended to help teachers ventilate their own emotions. The value of various approaches depends on the skill of the leadership, the attitudes of teachers, the climate of the school administration and the community, and the severity of the realistic difficulties under which the teachers labor.

Consultation between members of two different disciplines is now recognized as an art and a science that requires not only a thorough appreciation of basic principles but security and humility on both sides. No one profession has a monopoly on the understanding of human behavior. Personnel from other fields who work in the schools must have a genuine appreciation of the teacher's competence and role and a willingness to learn from and with their co-workers. They should have a well-thought-through philosophy of consultation, and hopefully, their professional preparation and experience should have helped them develop needed skills.

EDUCATION FOR EMOTIONALLY DISTURBED PUPILS

Emotionally disturbed pupils, like other pupils, need the benefits of an educational program adapted to their needs, interests, and capacities. Usually, with the kinds of help previously described, these pupils can maintain membership in a regular class and continue with their regular program. In some communities, however, some children will be unable to adjust satisfactorily to regular class placement, and special provisions for their education will be necessary.

Various methods are used in different parts of the country to further the education of pupils with severe emotional problems. Special schools or special classes may be organized. Sometimes special classes are formed in cooperation with a child guidance clinic. The specific method to be used in a particular community should be determined locally on the basis of the local school philosophy of special education, the number of pupils involved, and the resources available. Several programs that illustrate different methods will be briefly described.

The Special School Plan

Of "social adjustment" schools, the New York City program of so-called "600" schools may be taken as a pattern.[8] Enrollment in these schools is voluntary. The parent must bring the child and register him, a procedure which usually occurs after the child's failure to get along in his regular school. Classes are small, and some financial incentive to teachers is provided.

The curriculum is individually tailored to assure some form of success for children who previously may have known only failure. A departmentalized program gives pupils a wider range of activities than is available in a regular school. To offer a variety of instruction and services, fairly large centers with diversified learning opportunites are needed. Ample physical activity in the form of play, sports, and team games is needed. Art and music are included; guidance is crucial. Such a program requires augmented health and pupil-personnel staffs.

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[8] Smith, Carol C. "The '600' Schools." *Education* 80: 215-18; December 1959.

Discipline is firm but always respects the dignity of the child. Community groups frequently provide assistance to the special school program. This may come from successful people who have risen from the environment in which the disturbed children are now living. Public-spirited businessmen may make part-time jobs available to pupils.

Special Class Programs

For young disturbed children who cannot travel far from home and who do not need the diversity of learning experiences that a special school provides, special classes may be organized in local elementary schools. Chicago, for example, has 18 classes for boys under 12 years of age of normal intelligence who present severe problems of truancy or classroom disorder. Psychiatric diagnosis is not required for admission, though many of those enrolled have had some psychiatric attention. Class size is kept under 15, preferably under 12. Teachers are predominately young men and often provide many of the boys with their first contact with an adult male they can respect.

Practically all pupils in these classes are seriously retarded educationally although this is not the basis for selection. The curriculum includes strong remedial programs in reading, writing, and arithmetic; but social studies, health, science, and the arts are not neglected. Undesirable behavior is not tolerated, but the youngster is made to feel that he is accepted even if his behavior is not.

Classes Under Psychiatric Supervision

A few schools have established classes under psychiatric supervision for pupils with such severe emotional problems that they cannot adjust to a regular classroom (and usually the regular class cannot tolerate them). The Gary, Indiana, public schools have several classes conducted in cooperation with the County Child Guidance Clinic.[9] Children are seen by psychiatrists of the clinic, and teachers have regular consultations with the clinic staff. Class size is in the four to six range; both boys and girls are accepted.

Classes for brain-injured pupils, hyperactive children, and those with perceptual difficulties should be medically supervised. It has been suggested that similar methods may be used for children with certain symptom patterns whether the disturbance is psychogenic in origin or related to a neurological defect. Some classrooms have been designed with individual cubicles so that each child can sit with his back to the room. By this means, distracting stimuli are minimized.

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[9] Bisgyer, Jay L.; Kahn, Carl L.; and Frazee, Vernon. *Special Classes for Emotionally Disturbed Children.* Gary, Ind.: School City of Gary, 1962. 16 pp. (Mimeo.)

Evidence of increasing interest in efforts to serve children with severe emotional problems is seen in the recent formation of a national association of parents of disturbed children. A national association of teachers of the emotionally disturbed has also been organized.

Education in Other Settings

Increasing numbers of children are being cared for in psychiatric hospitals, in psychiatric wards of general hospitals, and in children's residential schools. Education follows children to the setting where they find themselves. State hospitals for the mentally ill not too long ago placed their occasional child patients in adult wards with mentally ill women to look after them, and gave them little other care. Today many such hospitals have wards for children and for adolescents and provide educational as well as psychiatric and social services. School systems that provide teachers in the general hospitals of the community send teachers to the psychiatric and psychosomatic wards where elementary or secondary children are housed.

Many residential institutions for children today find that the majority of their clients are children with severe emotional problems; some definitely specialize in caring for the emotionally disturbed. These institutions frequently send their children to the neighborhood public school. In some communities public school teachers have been provided to work in special classrooms within children's institutions.[10] It is desirable for such teachers to have special training to enable them to work in cooperative relationship with the psychiatrists, social workers, psychologists, house parents, or psychiatric nurses of the institution. Teaching must be adjusted to the needs and tolerances of the children. However, experience has clearly shown that the teaching must be kept divorced from the therapy program. The classroom must be a classroom, albeit a somewhat unusual classroom.

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[10] Mullen, Frances A., and Blumenthal, Leroy H. "Principles of Agency School Cooperation in a Program for Emotionally Disturbed Children." *American Journal of Orthopsychiatry* 32; January 1962.

Home Instruction

The problem of providing teaching service to a child confined to his home on a psychiatric diagnosis and under psychiatric treatment is a difficult one. Many schools that offer home teaching to the child confined to his home by physical illness or injury do not accept a child with a psychiatric condition.

Lack of home instruction for pupils with emotional problems is a result of the inherent difficulty of working in an environment which, in many instances, has been a contributing factor to the child's emotional condition. In a hospital or residential institution, the teacher has psychiatric and other staff immediately available for consultation. In a home, the teacher is sometimes no match for the sophisticated mother who has been from one psychiatrist to another, who is glib as to the needs of the child, and who is determined to close her eyes to any evidence of her own involvement in, or responsibility for, the child's problems. Especially in cases of so-called "school phobias" such a parent is expert in manipulating the teacher to assuage the parent's sense of guilt, while contributing to the persistence of the child's difficulty. Few teachers, if any, are trained to cope with such psychiatric problems in settings where supervisory and consultative help are not readily available.

Return from Special Education

The chief goal of most special classes and special schools, as well as of hospitals and institutions for the emotionally disturbed, is to return the child as soon as possible to the regular stream of child life in the schools. Sometimes a short period of intensive service in a protective environment is enough; frequently the period of residence in the special class or special facility is of several years' duration. The problem of managing the convalescent child's return to a normal classroom becomes crucial.

When the special class is housed in a school building, gradually increasing participation with regular classes may be arranged, first in the areas of school life or curriculum in which the child has most interest or most talent. When the special class is in an institution, the child may gain sufficient emotional stability to attend the neighborhood school even though he still needs therapy and is not ready to return to the stresses of his home environment. Some children still residing in various state hospitals now attend public schools in neighboring communities. This has been accomplished through careful preparation of the child and of the school and close continuing cooperation between the hospital staff and the school personnel.

TEACHER PREPARATION

Studies have shown that teachers resign from teaching as much because of the anxiety they experience over inability to deal with disturbed children as because of salary and other more frequently publicized causes.[11] The implications for institutions preparing teachers are many.

Preservice Preparation

Student teachers must be screened for emotional stability as well as for intellectual and educational levels. Their preparation must give them understanding of themselves and skill in dealing with their own personal problems. It must give them a philosophy of education that encompasses broad goals and enables the young teacher to cope with the vagaries of public opinion which one year demands that all students take a course of study appropriate for future Rhodes scholars and the next year blames the schools for excessive homework assignments. It must help the young person understand children and their parents and give them practice in observation and screening techniques appropriate to the classroom. It should help them to feel secure in dealing with members of the mental health professions through developing an understanding of the roles of these professions in the school setting.

The demands on teacher education curriculums constantly expand. America has not yet reached in practice a standard of four years of professional preparation for every elementary teacher, but it is rapidly realizing that a five-year course is barely sufficient to give the beginning teacher a broad cultural background, specific educational theory and technical know-how, and a grounding in mental health and human relations. Teacher education institutions are extending the practicum and internship phases of their programs, providing more effective supervision, and insuring keener analysis of the problems the practice teacher meets.

Searching for Improvement

Educational theory and practice have not yet made the great strides that have come in the physical and biological sciences.

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[11] Eaton, Merrill; Weather, Garret; and Philips, Beaman N. "Some Reactions of Classroom Teachers to Problem Behavior in the School." *Educational Administration and Supervision* 43: 129-39; March 1957.

Teacher preparation must produce a generation of teachers open-minded to experimentation and to change based on proven hypotheses. Basic research and applied research must be carried on vigorously in teacher preparation institutions, and teachers must be imbued with the importance of the experimental approach in their own work.

Schools are just beginning to realize the potentials of automated record keeping, of programed learning for individual instruction, of the full use of TV and audiovisual presentations for mass instruction, and of varying class sizes for varying purposes. We cannot as yet say with certainty which of the new directions will stand the test of rigorous trial and evaluation. However, a technological revolution within the schools in one direction or another, perhaps in a direction as yet barely hinted, seems almost a certainty, certainly a necessity, if we are to meet the challenges of the years ahead and if advances in human relations are to catch up with advances in our powers of destruction.

In the process of improving teacher preparation, especially in areas related to mental health, the insights of experienced workers in the fields of school health are greatly needed.

FOR FURTHER READING

ALLINSMITH, WESLEY, AND GOETHALS, GEORGE W. *Role of the Schools in Mental Health.* Joint Commission on Mental Illness and Health, Monograph No. 7. New York: Basic Books, 1962. 337 pp.

BETTELHEIM, BRUNO. *Truants from Life: Rehabilitation of Emotionally Disturbed Children.* Glencoe, Ill.: Free Press, 1955. 511 pp.

CALIFORNIA STATE DEPARTMENT OF EDUCATION. *The Education of Emotionally Handicapped Children.* Sacramento: the Department, 1961.

CONANT, JAMES BRYANT. *Slums And Suburbs.* New York: McGraw-Hill Book Co., 1961. 147 pp.

CRUICKSHANK, W. M., AND OTHERS. *A Teaching Method for Brain Injured and Hyperactive Children: A Demonstration Pilot Study.* Syracuse, N.Y.: Syracuse University Press, 1961. 576 pp.

CUTTS, NORMA E., AND MOSELEY, N. *Teaching the Disorderly Pupil.* New York: Longmans, Green and Co., 1957. 176 pp.

D'EVELYN, KATHERINE. *Meeting Children's Emotional Needs, A Guide for Teachers.* Englewood Cliffs, N.J.: Prentice-Hall, 1957. 176 pp.

Gottsegen, Monroe G., and Gottsegen, Gloria B., editors. *Professional School Psychology.* New York: Grune and Stratton, 1960. 292 pp.

Haring, Norris G., and Phillips, E. Lakin. *Educating Emotionally Disturbed Children.* New York: McGraw-Hill Book Co., 1962. 322 pp.

Henry, N. B., editor. *Mental Health in Modern Education.* Yearbook of the National Society for the Study of Education, 1955. Chicago: University of Chicago Press, 1955. 397 pp.

Hollister, William G., M.D. "Some Problems in Strategy in Providing School Mental Health Services." *American Journal of Public Health* 53: 1447–51; September 1963.

Hollister, William G., M.D., and Chandler, Caroline A., M.D. "When Feeling Storms Becloud the Learning Process." *NEA Journal* 51: 18–21; November 1962.

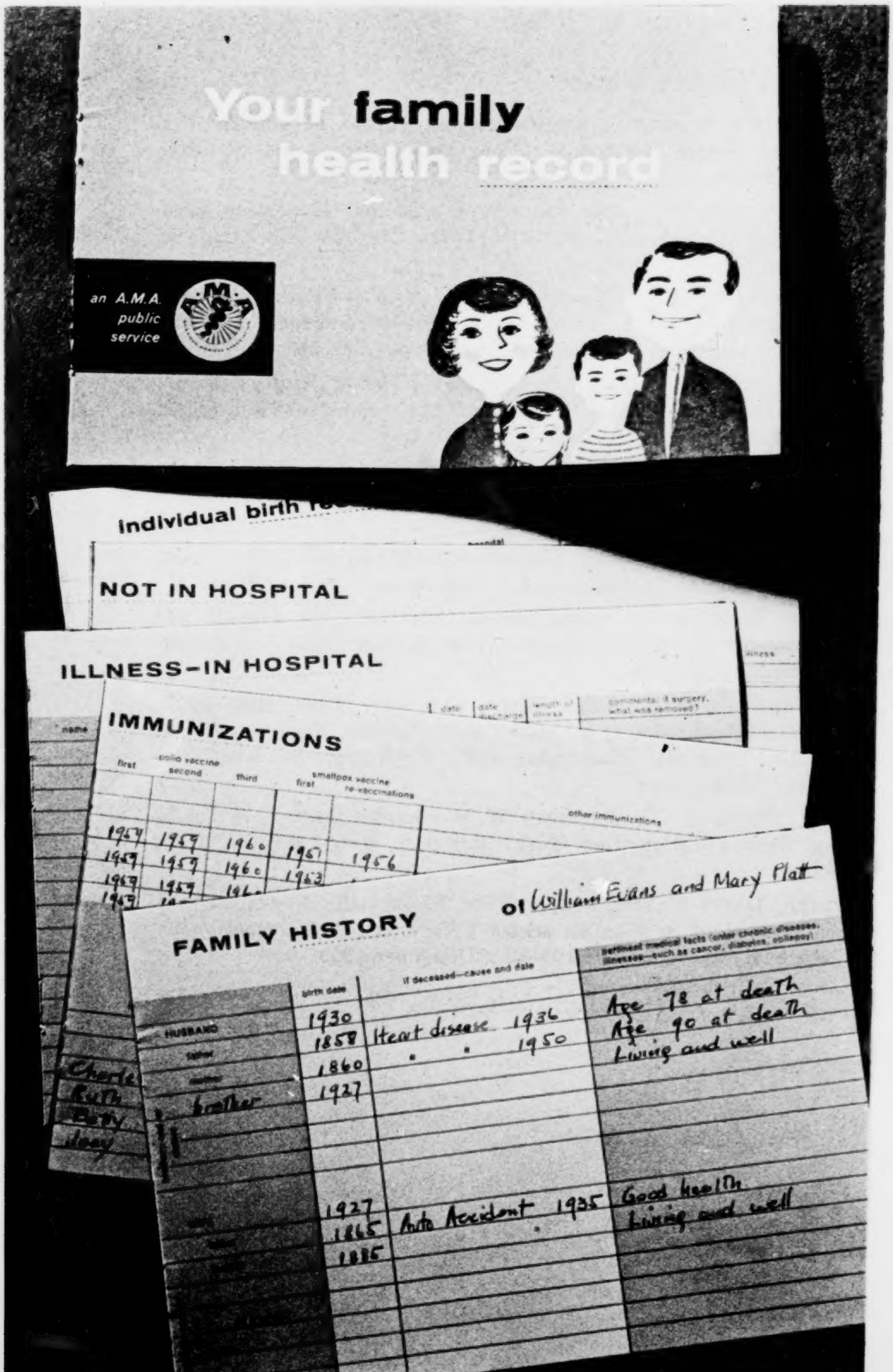
Krugman, Morris, editor. *Orthopsychiatry and the Schools.* New York: American Orthopsychiatry Association, 1958. 265 pp.

Morse, William C. "Public School Classes for the Socially and Emotionally Disturbed." *University of Michigan School of Education Bulletin* 31: 1960.

Newman, Ruth G.; Redl, Fritz; and Kitchener, Howard L. *Technical Assistance in a Public School System. Report of School Research Program.* Washington, D.C.: Washington School of Psychiatry, 1962. 75 pp.

Redl, Fritz, and Wattenberg, W. W. *Mental Hygiene in Teaching.* Second edition. New York: Harcourt, Brace and Co., 1959. 562 pp.

Smith, David Wayne, editor. "The Emotionally Disturbed." A group of eight articles on school programs for the emotionally disturbed. *Education* 80: 195–227; December 1959.



Your family health record

an A.M.A. public service

individual birth re

NOT IN HOSPITAL

ILLNESS–IN HOSPITAL

name	date	date discharge	length of illness	comments: if surgery, what was removed?
Charle				
Ruth				
Betty				
Mary				

IMMUNIZATIONS

polio vaccine first	polio vaccine second	polio vaccine third	smallpox vaccine first	smallpox vaccine re-vaccinations	other immunizations
1959	1959	1960	1961	1956	
1959	1959	1960	1963		
1959	1959	196			
1959					

FAMILY HISTORY of William Evans and Mary Platt

	birth date	if deceased—cause and date	pertinent medical facts (enter chronic diseases, illnesses—such as cancer, diabetes, epilepsy)
HUSBAND	1930		
father	1858	Heart disease 1936	Age 78 at death
mother	1860	" " 1950	Age 90 at death
brother	1927		Living and well
	1927		Good health
	1865	Auto Accident 1935	
	1885	"	Living and well

Chapter 10

Communicable Disease Control

Various health measures are responsible for bringing under control certain diseases which were scourges only a few decades past, but only a few will be mentioned here. The provision of safe public water supplies is the main reason for the decline in typhoid fever and other bacteria-caused intestinal diseases. Antibiotics are so effective against scarlet fever that this disease, although still common, is no longer feared. Immunization with diphtheria toxoid prevents diphtheria. The pasteurization of milk has closed an important channel for the spread of disease, and improvement in food storage and handling in wholesale and retail food establishments and in homes has reduced the spread of disease through foods. Such simple things as running water and refrigeration, conveniences earlier generations lacked, have greatly decreased the transmission of particular diseases.

Despite the progress which has been made, communicable diseases still occur, sometimes only a few cases at a time, but at other times in epidemic form. If the progress that has been made is to be maintained, the bars must not be let down. Effective control procedures need to be continued and, furthermore, a search made to discover even better procedures.

Numerous microorganisms, including bacteria, viruses, protozoa and fungi, are capable of entering the body and causing disease. Diseases caused by such microorganisms are known as infectious diseases. Certain infectious diseases (e.g., tetanus) are not transmissible from person to person; others are transmissible and are known as communicable diseases.

Several publications deal with the recognition and control of communicable diseases.[1] The intent of this chapter is not to duplicate the contents of these publications but to give a perspective on communicable disease control measures appropriate to the school situation and to suggest ways by which school personnel can assist in community control measures. Particular attention will be given to education relating to communicable diseases, to encouraging immunization against various diseases, and to the exclusion and readmission of pupils having, or suspected of having, a communicable disease. Special comments will be made on a number of communicable diseases having special significance for children and youth of school age.

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[1] American Academy of Pediatrics. *Report of the Committee on the Control of Infectious Diseases.* Evanston, Ill.: the Academy, 1961. 132 pp.

American Public Health Association. *Control of Communicable Diseases in Man.* Ninth edition. New York: the Association, 1960. 234 pp.

EDUCATION RELATING TO COMMUNICABLE DISEASES

Parents, teachers, and pupils need to understand their roles in communicable disease control, including measures to prevent particular diseases through immunization. Their effective participation in control measures depends on their knowing what to do and how to do it. Education designed for these purposes is accomplished in a variety of ways with the assistance of many individuals.

Parents Are Interested

As a group, parents know the seriousness of communicable diseases, particularly in young children, and are eager for information about preventive measures. They search for facts in baby books, ask questions of their physicians, talk with neighbors, bring their problems to nurses, and read articles in popular magazines. As a result of information gained through these various channels, most mothers learn that immunizations are important for the infant. Children who are under the regular care of a physician usually receive such treatments at the appropriate age.

In some instances, health department nurses visit mothers of newborn children and provide information on disease prevention. Well-child clinics usually provide immunizations for those not otherwise protected.

Because of these efforts and activities the parents of children entering school usually have considerable information about communicable diseases. However, it often is necessary to inform them of school regulations and school policies, such as whether smallpox vaccination or immunization against other diseases is required for admission to school and that a pupil should be kept at home whenever he does not seem well. Many schools ask parents to send word to school whenever a pupil is ill and to have him bring a note from his physician upon his return to school after a given period of absence due to illness.

In some schools, information on communicable diseases is given to parents of entering pupils in conjunction with other facts of interest to them, such as policies regarding the care of sick or injured pupils, accident insurance programs, lunch programs, and similar matters.

As a substitute or supplement for written materials, schools may organize meetings for parents of entering pupils at which procedures for the prevention and control of communicable diseases are discussed. Schools may arrange for the person who registers a child to talk with his mother about these matters. If a school nurse is available, she should be given this responsibility. Disease control is aided by informed parents who understand the help they can get from their physician and the procedures that are carried out by the school and the health department.

Teachers' Responsibilities

Teachers should know their responsibilities in communicable disease control and understand how their activities fit into the total community program. In some states teacher registers of pupils contain facts about various diseases, suggestions regarding teacher observations, and instructions for excluding ill pupils. Guides for school health services, mimeographed bulletins, and teachers handbooks may include similar information. At times of an increased incidence of communicable diseases, the health officer, a school physician, or some other physician may discuss the situation at a teachers meeting or prepare a special bulletin for teachers and other interested persons.

School personnel need to know that the local health department is legally responsible for inaugurating and implementing procedures to prevent and control communicable diseases. These efforts require the cooperation of practicing physicians, parents, teachers, and many others. In this area the health department provides leadership and coordinates the efforts of all groups in the community.

The school nurse often does an excellent job of disseminating information to teachers. She may familiarize them with local ordinances and regulations relating to communicable diseases, help them develop skill in detecting early signs of sickness, acquaint them with recommended immunization procedures, and inform them that she is available for advice and assistance.

Teachers can and should help pupils gain an understanding of communicable diseases, learn what they as individuals can do about them, and learn how physicians and health departments prevent and control such diseases. Teaching designed to achieve these purposes should be adapted to the age of pupils and be an integral part of the health education program. Pupils should learn how desirable health practices help to prevent disease. They are often curious about the causes of diseases, how certain diseases are spread, how the body combats disease, and the way immunizations provide protection. They are thrilled by the story of Louis Pasteur and his discoveries, the conquest of yellow fever, and other dramatic incidents in man's fight against disease and pestilence. Teaching of this kind helps pupils to learn how they can help prevent disease and gives them an appreciation of the work done by practicing physicians and health departments.

PREVENTION THROUGH IMMUNIZATION

Immunization, an effective means of preventing certain diseases, is accomplished by inoculation, the introduction of particular substances into the body. Inoculation may take place through injections into or under the skin or through swallowing substances taken by mouth. When inoculation is by injection, a series of injections is given originally, followed in later years by reinforcing injections, sometimes called booster or recall injections. The latter are used to increase immunity that may have diminished with passage of time.

Basic Immunizations

Health authorities agree that infants and children should be immunized against smallpox, diphtheria, whooping cough, tetanus, and poliomyelitis. Recommended practices will vary with respect to the age at which immunization treatments should first be given and the choice of immunizing agents to be used. Consequently, specific recommendations should be obtained from local physicians or the local health department. In general, immunity should be developed as early in the life of an infant as is necessary and possible.

Initial vaccination against smallpox is most desirable and safest during the first year of life. Revaccination is recommended at the time of entrance to school and periodically thereafter at intervals of about five years. Revaccination is particularly important at the time of any unusual exposure to smallpox, such as when a case of the disease occurs in a community, and is required when a person travels to a foreign country. An individual should neither be vaccinated nor exposed to a recently vaccinated person when suffering from exzema and certain other skin infections because of the possibility that the vaccine will infect large areas of the skin.

Immunization against whooping cough should be accomplished early in infancy because this disease is especially serious if it occurs during the first six months of life. Since it is possible and desirable to produce immunity against whooping cough earlier than immunity to other preventable diseases, whooping cough vaccine is often administered separately from other immunizing substances.

Combinations of immunizing substances are sometimes used. Selection of the particular immunizing substance or combination of substances to be used should be left to the discretion of the physician who will administer it.

The need for reinforcing inoculations varies with age. Frequently, booster doses of agents that produce immunity against diphtheria, whooping cough, and tetanus are given about 6 to 12 months after the initial series of inoculations, or after exposure to one of the diseases and sometimes at the time of entrance to school. Recommendations on the spacing of and need for routine booster inoculation during the school years are variable because of the development of new vaccines and new methods for their administration. School personnel can keep abreast of current recommendations by consulting their local health department and medical society.

Immunization against tetanus has special values for children and any person likely to be exposed to the disease through injury during outdoor vocational or recreational pursuits. It automatically affords protection when injuries occur that are erroneously considered not to require additional protective measures. When a child who has had tetanus toxoid receives a wound which might be followed by tetanus, he may be given a reinforcing inoculation of toxoid. This very quickly brings his immunity up to a high level. A child who has not previously been immunized against tetanus will need to be given tetanus antitoxin. Since this substance is made from horse serum, it may cause alarming or even fatal allergic reactions.

Some Other Kinds of Immunization

Poliomyelitis may be prevented by the use of two different substances, Salk vaccine or Sabin vaccine. Salk vaccine contains killed poliomyelitis viruses, whereas Sabin vaccine contains weakened live viruses. Salk vaccine is administered by a series of injections, followed later by booster injections. Sabin vaccine is taken by mouth, usually in the form of a syrup. Whether oral (Sabin) vaccine needs to be followed by booster doses is not known at present. The relative value of the different types of vaccine is not known, but it is recommended that all children be immunized against poliomyelitis by one type of vaccine or the other, depending on recommendations of local medical and public health authorities.

A successful immunizing substance against measles is now available. Its use should be routine for children and for older persons who have not had the disease. An important immunizing substance called gamma globulin, which is a human blood derivative, may be used to supplement the new vaccine. Formerly this substance was used to prevent measles or reduce its severity in exposed infants and delicate children.

Vaccination against influenza has for many years been regarded as optional because the immunity it produces is neither complete nor long-lasting and could be circumvented by a sudden change in the strain of virus that causes the disease. Annual vaccination against influenza is desirable for groups in which the risk of death is high—the aged and those with severe chronic diseases. School children are highly susceptible to the illness but generally recover uneventfully. Therefore, annual influenza vaccination does not seem essential for them unless they have a chronic disease or are in a debilitated condition.

Records of Immunizations

How to maintain records of immunizations received by an individual is a problem which ingenious plans have by no means solved. Physicians who administer vaccines or toxoids keep records of the treatments they give, as do personnel in charge of clinics. Such data need to be supplemented by records kept by parents and school personnel. Parents should be urged to keep up-to-date records of basic and booster immunizations given to their children, including the names of the diseases for which they were given and the dates on which inoculations were administered. School personnel should secure such information from parents at the time a child enrolls in school, record it on the pupil's cumulative health card, and keep the information up to date.

It is especially important to keep records of immunization against tetanus. As mentioned earlier, treatment of a child with a wound is simpler and easier if he has previously received tetanus toxoid. Not only should each child be immunized with tetanus toxoid, but, equally important, a record of such treatment should be readily available to provide answers to questions the doctor will raise if a child suffers a skin wound. Children known to be sensitive to horse serum should carry an identification card or tag on which this fact is recorded together with information concerning the date of his most recent injection of tetanus toxoid.

Should Immunizations Be Compulsory?

Decades ago many countries made smallpox vaccination compulsory. In general, compulsion did not extend to other diseases for which immunizing agents became available. With the coming of poliomyelitis vaccines, however, the suggestion has been made that their use be made compulsory.

The question as to whether immunizations should be compulsory is difficult to answer categorically with a yes or no. The answer depends on many factors. Most countries are tending to move away from compulsion and are finding that health education can achieve equally good results. Enforcement of compulsory procedures is difficult and burdensome and regulations all too often are ignored. Furthermore, compulsion may lead to postponement of needed inoculations until they are legally required, resulting in children being unprotected during the critical preschool years.

If voluntary measures in a community produce a high level of immunity against a particular disease, there is no reason to press for compulsion. If the level of immunization is not satisfactory, intensive health education is preferable to compulsion.

It may well be that in some places compulsion is useful. In this country, however, the most effective method to accomplish immunization is to have it adopted by the medical profession for their private patients. If most infants are under the care of private physicians, the results are highly satisfactory. In many parts of the country, local health departments no longer conduct immunization clinics, limiting their efforts to checking from time to time on whether or not the community is well protected. (Participation of the local health department and of practicing physicians is essential for the high degree of organization required if oral poliomyelitis vaccine is to be given rapidly to a whole community.)

Indiana adopted an immunization law [2] which requires parents to give schools a written record of the immunizations of their children, unless they object in writing. The identity of unimmunized children is reported to the local and state health departments. Reports of the adequacy of the immunization in various communities are then published, and the publicity given to communities with poor records often leads to corrective measures.

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[2] Marshall, A. L., Jr., and Offutt, Andrew C. "A Non-Compulsory Immunization Law for Indiana School Children." *Public Health Reports* 75: 967-69; October 1960.

EXCLUDING AND READMITTING PUPILS

The preceding pages have stressed the preventive aspects of communicable diseases. But what occurs when a pupil develops a particular disease? What provision is made to exclude ill pupils and to check children returning to school following illness? Should schools be closed when epidemics occur? Policies and procedures relating to those matters need to be developed and responsibility for carrying them out definitely established.

Identifying and Isolating the Sick Pupil

The school is a safe place for well children only when children with signs of illness are identified promptly and separated immediately from the others. This requires that each teacher observe his pupils at the beginning of each school session and be alert throughout the day for signs or symptoms that may develop. The child may be perfectly well at 9 o'clock, but exhibit signs of illness later in the day.

Exclusion of a child is based on his appearance, behavior, or complaints, not on a diagnosis. If a child's condition is sufficiently different from usual to attract attention, there is cause for exclusion.

Among the more commonly observed indications of communicable disease that the teacher may observe are these:

Unusual pallor or flushed face
Unusual listlessness or quietness
Red or watery eyes
Eyes sensitive to light
Skin rash
Cough
Need for frequent use of the toilet
Nausea or vomiting
Running nose or sniffles
Excessive irritability
Jaundice.

A child may complain of such symptoms as stomach ache, sore throat, headache, or abdominal pain, any one of which may be evidence of the first stage of a communicable disease.

The onset of many communicable diseases often resembles a common cold. Exclusion of children who look as if they are getting a cold is, therefore, an effective means of removing from the classroom children who may be developing more serious diseases. Even if the condition is only a cold, both the child and his classmates are the better for his exclusion. The child in the first stage of a cold cannot gain much from school work and may spread his infection.

In some schools the temperature is taken of pupils who appear sick or complain of not being well. This is not essential but can serve a screening purpose. If the temperature is elevated, it is evidence that the child is sick, but a normal temperature does not mean he is well. A seriously ill child may have a normal temperature.

The child with suspicious symptoms should be removed from the group at once and placed in the care of a responsible person. An ill child is a frightened child and needs reassurance. He should have a chance to relax on a cot until placed in the hands of his parents. The mother may be asked to call for the child; but if this is not possible, the school should see that he is taken home by a responsible party or, in occasional cases, to a hospital.

Exclusion procedures must be adapted to available personnel and to local policies. If a nurse is on duty, the pupil may be referred to her; otherwise, the principal or classroom teacher should arrange the exclusion. Policies may require that school personnel report to the health department the names of children excluded from school because of suspicious symptoms. Such reports are "suspect" notices not diagnostic in nature.

Many communities will find it desirable to set up a policy, prepared in cooperation with the county medical society and hospital administrator, for referring children with apparently serious symptoms to the nearest hospital which admits persons with communicable diseases. The referral should be made by a physician whenever possible. Sometimes, however, to avoid delay of many hours should no physician be within reach, it may become necessary to take a child to a hospital as fast as circumstances permit. Valuable time may be lost and other members of the family unnecessarily exposed should such a seriously ill child be taken home first. It is important, therefore, that the school know all the community resources able to cope with certain diseases from diagnosis through treatment—physicians, health departments, clinics, hospitals, or emergency hospitals in epidemics. At least one responsible person in the school should know the local and state laws relating to communicable diseases.

Care of Contacts

Once the child with a suspected or an established illness has been sent home, the question of contacts arises. Quarantine and isolation requirements vary in different states and have not always kept pace with recent developments in medicine. It is of little value, for example, to quarantine household contacts of scarlet fever cases in the light of modern concepts of the disease. However, as long as such a law or regulation exists, it must be followed. For contacts of some diseases, such as diphtheria and meningitis, quarantine and laboratory tests, as well as prophylactic treatment, may be required. In many states no attendance limitations are placed on brothers and sisters of children sick with such diseases as chicken pox, measles, mumps, and German measles.

It is necessary for personnel at each school to become acquainted with state and local rules and regulations and to proceed as therein directed. This practice should be followed for all diseases, including such "nuisance" diseases as impetigo, scabies, and pediculosis.

When it is definitely known that a school child has a communicable disease, it is good practice to notify parents of other children in the same class. This enables them to take precautionary measures. For example, a delicate child may be given immune serum to lessen the danger of measles.

Readmission to School

Readmission policies will depend on several factors: (a) state and local laws governing communicable diseases, (b) rules of the local health department, and (c) the extent of school health services. Readmission procedures are probably the least uniform part of communicable disease control in schools. Some state laws specify the procedure by which a child can be readmitted. In some areas, special regulations are passed by the education department, sometimes a local health department is made responsible, and sometimes the doctor in charge of the case. In many areas, the child simply returns to school.

There is definite need for sound policies governing a child's return to school after an attack of disease—any disease. School health service personnel or the school principal, where health personnel are not available, should require a certificate, either from the family physician or the health department, stating that the child can now return and that state laws have been complied with. In large school systems with full-time health service staffs, the school physician may be the authorized agent to check readmissions. He may request a note or telephone call from the family physician; for less serious conditions, he may delegate responsibility for readmission to a nurse, a principal, or teachers. Where school health services are provided by the local health department, the health officer usually issues a permit based on examination or on a physician's statement.

The question of readmission of pupils was considered by one of the discussion groups at the Third National Conference on Physicians and Schools. They recommend that—

> readmission to school following a communicable or suspected communicable disease, where this readmission is not governed by state and local health regulations, be an administrator or teacher responsibility based upon accepted practices for communicable disease control, the protection of other children and the personal health of the child who has been ill. This implies an understanding of disease control by the teacher, as well as the guidance of a nurse, school social worker, or counselor who has obtained information from the child's family on the reason for the absence.[3]

For some diseases, it will not suffice for the physician to state that a child or contact is ready to return. Specific information should be given if certain procedures are required by law. For example, there may be a requirement of laboratory tests to verify absence of the infectious agent following disease or contact. Notes from physicians must state clearly that such tests were done on certain dates and were found to be negative.

Keeping Schools Open

In the face of an epidemic, the question is often raised, "Should schools be closed?" With the effectiveness of immunization procedures and present-day understanding of how diseases spread, it is now considered preferable to keep schools open during epidemics, particularly in urban communities. Some of the factors requiring attention have been noted in these words:

> If schools are already in session and an epidemic develops, the decision as to closing the schools should rest largely upon the availability of resources for supervision of school children. Closing the schools leaves the children at loose ends and favors community contacts and dispersion of infection thru such channels as theaters, playgrounds, public conveyances, stores, and neighborhood contacts to a greater extent than would be the case if schools were open.

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[3] American Medical Association. *Third National Conference on Physicians and Schools.* Conference Report, November 1951. Chicago: the Association, 1951. p. 47.

> Where school administrators are faced with public opinion based on misinformation which demands the closing of schools, the situation usually can be met most satisfactorily by agreeing to close the schools provided children are rigidly excluded from all public places and are kept on their own home premises. This paralyzing alternative usually convinces parents that a properly supervised school is as safe as any other place during an epidemic with the possible exception of the home. Unless the home has in it exceptionally wise and firm parents, the school may be the safest place.[4]

Careful supervision of pupils during school hours, coupled with prompt identification and isolation of those appearing sick, helps to prevent the spread of communicable diseases through school contacts at times of epidemics and at all other times as well.

COMMENTS ON SPECIFIC DISEASES

A few diseases merit special comment, either because present viewpoints on their control are considerably different from those of earlier years or because they have particular significance in school situations.

German Measles (Rubella)

In recent years, physicians have become quite concerned with this "minor" childhood disease. It usually causes no problem when it occurs during childhood; but if a prospective mother contracts it during early pregnancy, the fetus may become malformed. One attack of German measles, as a rule, gives permanent immunity. It is advisable, therefore, that girls have the disease during childhood. Many physicians recommend that no attempt be made to prevent contact with German measles by preadolescent children since it usually is a harmless disease to this age group.

Infectious Hepatitis

Infectious hepatitis is a fairly common disease of children and young adults which occurs sporadically or in small outbreaks. A yellow discoloration of the eyeballs and skin is a characteristic sign, but jaundice is often lacking in childhood cases. Probably the main channel of spread is feces to mouth. Personal cleanliness and environmental sanitation are, therefore, of vital importance. In controlling an outbreak, gamma globulin, a derivative of human blood, is useful in preventing symptoms of infection, but it may not prevent communicability. Gamma globulin, which is fairly scarce and expensive and cannot always be used as liberally as school health personnel might like, is no substitute for good hygiene.

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[4] American Association of School Administrators. *Health in Schools.* Revised edition. Washington, D.C.: the Association, a department of the National Education Association, 1951. p. 335.

Mumps

This is another disease which usually takes an uneventful course in younger children but may be accompanied by serious complications in individuals beyond puberty, particularly inflammation of the testes in males and of the ovaries and breasts in females. If there are no contraindications at the time of exposure, it is desirable for preadolescent children to get the disease and thus develop immunity against future attacks.

Scarlet Fever

Since it has been learned that scarlet fever is not a disease entity but a form of streptococcal infection in nonresistant individuals, concepts of isolation and quarantine procedures have changed. For every case of scarlet fever, there are a number of "carriers" without signs of illness and individuals ill with "strep sore throat." Further spread of the disease can be checked by prophylactic use of drugs and antibiotics.

Gonorrheal Vulvovaginitis

Among children of prepubertal age, gonorrheal infections are mostly found in little girls in the form of a purulent vulvovaginitis. The infection is transmitted by close personal contact as well as by freshly soiled, improperly handled articles from an infected individual. In view of modern therapy (sulfa drugs and antibiotics), the problem of checking the spread among school children has been greatly eased. Certain virus diseases, such as measles and chicken pox, may also produce vulvovaginitis. No diagnosis of gonorrhea should be made without careful bacteriological examination.

Syphilis and Gonorrhea

Although marked progress has been made in combating these two different and distinct diseases, cases still occur, and unfortunately, an increased number of cases in teen-agers has been reported in recent years. Both diseases are spread through sexual contacts and both respond readily to appropriate treatment. It is important that boys or girls who complain of a discharge from the sexual organs or of a sore on the external genitalia be referred for medical examination. Education is an important factor in extending knowledge about these diseases, the way they are spread, and the value and importance of treatment. Such education, as well as education regarding growth and reproduction, should be an integral part of health education in junior and senior high schools.[5]

Rheumatic Fever

Although this disease is closely related to and may appear as a sequel to streptococcal infections and is not "communicable" from one person to another, it has been included in this list from the standpoint of prevention. Children who are known to have had or to have been exposed to streptococcal infections should be observed for early symptoms of rheumatic fever. Children who have had rheumatic fever should receive an antibiotic or a sulfonamide at regular intervals to prevent recurrences and further damage to the heart.

Pinworm Infestation

This infestation is very common although not always recognized. Since the worm descends during the night to deposit eggs in the anal folds, bedding and clothing are usually infested with ova. A few years ago, during an outbreak in one high school in a metropolitan area, 30 percent of the students were found to be infested. Ova were found in the dust on window sills and throughout the school building. Where one case is found, infestation of close contacts may be expected. To prevent reinfestation, all members of the family should be examined and treated at the same time. The ova withstand heat and chemicals to a considerable degree. Scrupulous cleanliness should be exercised in connection with toilet seats; they should be scrubbed daily with soap and water. Children should be instructed to scrub their hands in the morning and before eating and after defecation, practices that are desirable at all times. Ova are frequently found under fingernails because of scratching during sleep. Nail biting is frequently a cause of reinfestation.

Mononucleosis

Children and young adults are particularly susceptible to mononucleosis, a disease characterized by *malaise*, low-grade fever, sore throat, and swollen glands. Examination of the blood shows definite and distinct changes. Sickness may last for several weeks and general weakness may persist for several months. Complete recovery is the rule. The exact cause of the disease is not known. It is believed to be spread from person to person by direct contact or droplets from the nose and throat. Pupils returning to school following the disease may need help in making up work they have missed. They need to be urged not to do too much too soon. Such pupils may not be able to resume a full schedule of study and activity for several months.

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[5] The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association has prepared a series of five booklets on the physiology of growth and reproduction, suitable for use by parents and teachers, as well as by pupils. These may be obtained from either the National Education Association or the American Medical Association. The titles are Parents' Responsibility, A Story About You, Finding Yourself, Approaching Adulthood, and Facts Aren't Enough.

Nuisance Diseases

Pediculosis of the scalp (head lice), scabies (the itch), impetigo, and ringworm are communicable conditions that occur in comparatively large numbers of children and frequently cause concern because they may lead to prolonged absence from school. Although children with these conditions must be excluded when they are in a communicable condition, they can usually be rendered noncommunicable fairly rapidly by appropriate treatment and can then return to school. Scabies and pediculosis are apt to occur in entire families; treatment of one member of the family is not sufficient.

TWO GENERAL PROBLEMS

Two additional problems remain for discussion—one related to attendance and one to school employees.

The Attendance Problem

Allotting state funds to local schools on the basis of average daily attendance leads to undue emphasis on perfect attendance and encourages pupils to attend school regardless of their condition. It would be better to make exceptions for absences due to illness or to base allotments on "pupils enrolled." Any practice that puts pressure on sick children to come to school interferes with efforts to control communicable diseases.

Sickness Among Employees

Teachers can catch colds as readily as pupils and may get tuberculosis, measles, infectious hepatitis, or a nuisance disease. Bus drivers, secretaries, lunch room personnel, and principals and superintendents of schools may become ill with a disease which can be transmitted to others.

The procedures for dealing with ill school employees are similar to those applied to pupils. A sick employee should be allowed to go home or be excluded, if necessary, and sick-leave policies should be such as to encourage him to stay at home as long as is necessary. Duration of exclusion and procedures for readmission will be dictated by local regulations.

These problems and others can be solved through cooperative planning by schools, health departments, and medical societies. Through such planning, school aspects of community disease control can be developed in the interest of both the school and the community.

FOR FURTHER READING

AMERICAN ACADEMY OF PEDIATRICS. *Report of the Committee on the Control of Infectious Diseases.* Evanston, Ill.: the Academy, 1961. 132 pp.

AMERICAN PUBLIC HEALTH ASSOCIATION. *Control of Communicable Diseases in Man.* Ninth edition. New York: the Association, 1960. 234 pp.

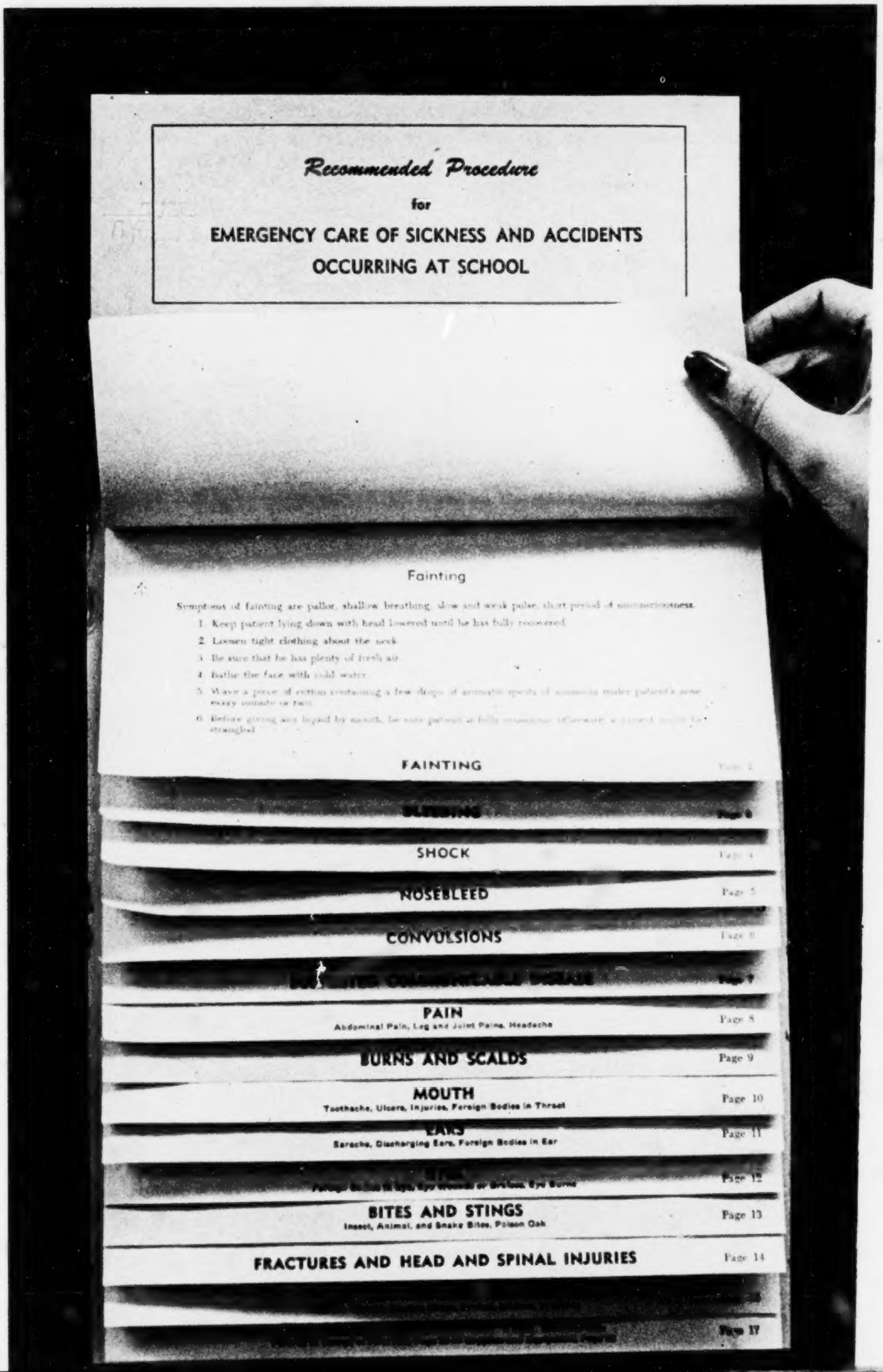
ANDERSON, GAYLORD W., AND ARNSTEIN, MARGARET G. *Communicable Disease Control.* Third edition. New York: Macmillan Co., 1958. 500 pp.

HILLEBOE, H. E., AND LARIMORE, G. W. *Preventive Medicine.* Philadelphia: Saunders, 1959. 731 pp.

LEAVELL, H. R., AND CLARK, E. G. *Preventive Medicine for the Doctor in His Community.* New York: McGraw-Hill Book Co., 1958. 689 pp.

SMILLIE, W. G. *Preventive Medicine and Public Health.* Second edition. New York: Macmillan Co., 1954. 603 pp.

TOP, FRANKLIN. *Communicable and Infectious Diseases—Diagnosis, Treatment and Prevention.* Fourth edition. St. Louis: C. V. Mosby Co., 1960. 812 pp.



Recommended Procedure

for

EMERGENCY CARE OF SICKNESS AND ACCIDENTS
OCCURRING AT SCHOOL

Fainting

Symptoms of fainting are pallor, shallow breathing, slow and weak pulse, short period of unconsciousness.

1. Keep patient lying down with head lowered until he has fully recovered.
2. Loosen tight clothing about the neck.
3. Be sure that he has plenty of fresh air.
4. Bathe the face with cold water.
5. Wave a piece of cotton containing a few drops of aromatic spirits of ammonia under patient's nose every minute or two.
6. Before giving any liquid by mouth, be sure patient is fully conscious; otherwise, a patient might be strangled.

FAINTING Page 2

BLEEDING Page [illegible]

SHOCK Page 4

NOSEBLEED Page 5

CONVULSIONS Page 6

[illegible] Page 7

PAIN Page 8
Abdominal Pain, Leg and Joint Pains, Headache

BURNS AND SCALDS Page 9

MOUTH Page 10
Toothache, Ulcers, Injuries, Foreign Bodies in Throat

EARS Page 11
Earache, Discharging Ears, Foreign Bodies in Ear

[illegible] Page 12

BITES AND STINGS Page 13
Insect, Animal, and Snake Bites, Poison Oak

FRACTURES AND HEAD AND SPINAL INJURIES Page 14

[illegible]

[illegible] Page 17

Chapter 11

Caring for Emergency Sickness or Injury

Emergency care for pupils who become either sick or injured at school or at school-sponsored functions away from the school is a responsibility of school personnel and an integral part of school health services. Possible emergencies should be anticipated and policies for dealing with them formulated. Consideration should be given to common, day-by-day occurrences and also to the unusual situations which might follow disastrous fires, explosions, floods, tornadoes, or other catastrophes. Careful preparation assures better protection for children and school personnel, helps avoid mistakes that could produce embarrassment or result in legal liability, and reduces the danger of hysterical reactions to unusual conditions.

The school administrator has responsibility for the establishment of policies to guide those individuals who provide emergency care, but it is essential that he obtain competent medical advice and that he confer with others who are concerned with the problem. Policies should be developed jointly by representatives of the school, the local medical and dental societies, the health department, hospitals, and parents. Policies should be in written form and distributed and interpreted to each teacher as well as to parents, pupils, physicians, and members of hospital staffs.

A realistic program for emergency care recognizes the need for school personnel to accept certain responsibilities and to have readily available the supplies that may be needed. Attention must be given to records and reports. These provide necessary information for analyses of accident experiences, an essential procedure in the development of preventive measures. Records and reports are also needed because of the possibility of legal difficulties growing out of the actions of school personnel, or of their failure to act.

FOUR SCHOOL RESPONSIBILITIES

Fundamental to any emergency care program is acceptance by school personnel of responsibility for (a) giving immediate care,

tate Department of Education and
tate Board of Health, South Carolina

FIGURE 1 CAUSES OF SCHOOL AGE DEATHS IN THE UNITED STATES, 1960

Cause of Death	5-9 Years		10-14 Years		TOTALS: 5-14 Years		15-19 Years		20-24 Years		TOTALS: 5-24 Years	
	Number of Deaths	Per Cent of Deaths	Number of Deaths	Per Cent of Deaths	Number of Deaths	Per Cent of Deaths	Number of Deaths	Per Cent of Deaths	Number of Deaths	Per Cent of Deaths	Number of Deaths	Per Cent of Deaths
All Deaths	9,163	100%	7,374	100%	16,537	100%	12,185	100%	13,348	100%	42,070	100%
Accidents	3,687	40	3,149	43	6,836	41	6,704	55	6,753	51	20,293	48
Cancer (malignant neoplasms)	1,391	15	1,024	14	2,415	15	1,023	8	977	7	4,415	11
Congenital malformations	777	8	510	7	1,287	8	373	3	274	2	1,934	5
Homicide	83	1	90	1	173	1	535	4	887	7	1,595	4
Pneumonia	525	6	298	4	823	5	309	3	273	2	1,405	3
Heart disease	193	2	260	4	453	3	382	3	569	4	1,404	3
Suicide	3	*	90	1	93	1	475	4	764	6	1,332	3
Nephritis and nephrosis	141	2	147	2	288	2	223	2	277	2	788	2
Vascular lesions, central nervous system	117	1	129	2	246	2	182	2	245	2	673	2
Benign, unspecified neoplasms	140	2	92	1	232	1	87	1	87	1	406	1
Complications of pregnancy, childbirth	0	0	5	*	5	*	100	1	245	2	350	1
Diabetes mellitus	50	1	82	1	132	1	88	1	128	1	348	1
Anemias	112	1	62	1	174	1	82	1	58	1	314	1
Influenza	65	1	41	1	106	1	64	1	78	1	248	1
Appendicitis	68	1	75	1	143	1	50	*	26	*	219	1
Meningitis (nonmeningococcal)	107	1	40	1	147	1	39	*	18	*	204	1
Gastritis, duodenitis, enteritis, colitis	56	1	31	*	87	1	51	1	49	*	187	*
Tuberculosis, all forms	24	*	21	*	45	*	41	*	96	1	182	*
Asthma	40	*	30	*	70	*	46	*	48	*	164	*
Infections of kidney	18	*	27	*	45	*	24	*	45	*	114	*
Cirrhosis of liver	10	*	40	1	50	*	24	*	38	*	112	*
Meningococcal infections	52	1	22	*	74	*	19	*	15	*	108	*
Bronchitis	53	1	16	*	69	*	13	*	23	*	105	*
Acute poliomyelitis	39	*	16	*	55	*	16	*	27	*	98	*
Hernia and intestinal obstruction	30	*	19	*	49	*	19	*	30	*	98	*
Measles	74	1	6	*	80	1	3	*	1	*	84	*
All other causes	1,308	14	1,052	15	2,360	14	1,213	10	1,317	10	4,890	12
Accidental Death Rate†	19.7		18.7		19.2		50.5		62.3		34.0	

Source: National Vital Statistics Division. † Rates are deaths per 100,000 population in each age group. * Less than one-half of one per cent.

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(b) notifying the pupil's parents, (c) arranging for the pupil to get home, and (d) guiding parents, when necessary, to sources of treatment.

First aid is the immediate care given an injured or sick person. It includes procedures that can be applied by nonmedical persons to save life, to prevent further injury, or to reduce suffering. It never includes diagnosis or the administration of medication. First aid procedures are based on the assumption that the sick or injured person will obtain medical treatment promptly whenever it is needed.

Immediate Care

Everyone on a school staff should have the skills and understandings necessary to administer first aid. The principal, the teachers, the secretaries, the maintenance staff, and the bus drivers are all likely to be in a position where they will need to administer first aid. This is particularly true in schools where medical and nursing personnel are not available, but holds true also for schools which receive the services of such persons. As a minimum standard, at least one person with special preparation in giving first aid should be available in each school *at all times* that pupils are in the school or on the school grounds. This person may be a teacher, principal, secretary, or other person with appropriate preparation.

If a physician is at a school when a pupil becomes sick or injured, he may provide the necessary immediate care. However, his help should be solicited only when the sickness or injury is too serious to be cared for by a first aider. The assistance the school doctor gives should be restricted to immediate care. The chief role of the physician relating to emergency care is in developing policies and procedures rather than in rendering first aid.

When a serious accident occurs or when a pupil becomes alarmingly sick and obviously in need of immediate medical attention, school personnel should be authorized to call the school medical advisor, if there is one, or summon the nearest available physician. It should be made clear to the physician called that he will be superseded by the family physician when responsibility is turned over to the parents.

A nurse, if at hand or easily reached, may provide immediate care and may advise regarding the need for medical attention. It is not desirable, however, to require that a nurse provide first aid in all cases of injury and sickness since many conditions can be cared for safely and effectively by a teacher or other person trained in first aid. In a serious case, the nurse may give immediate emergency care including such measures as rest, external application of heat or cold, temporary dressings, hemorrhage control, and ordinary nursing measures directed toward the comfort and safety of the ill or injured individual.

Notification of Parents

Parents should be advised of a pupil's illness or injury if the condition is at all serious. If possible, parents should be summoned by telephone and informed in a tactful manner concerning the pupil's condition. Care should be taken to avoid undue apprehension and excitement. The parent should be assured that the pupil is receiving immediate care and will be looked after until the parent reaches the school.

Each pupil's cumulative health card should contain data that are needed at the time of an emergency. Such data would include—

1. Name, address, and telephone number of each parent or guardian, including places of work.
2. Name, address, and telephone number of the family physician, family dentist, and preferred hospital.
3. Name, address, and telephone number of relative or neighbor who has agreed to care for a pupil if a parent cannot be reached.
4. Written authorization from a parent or guardian for school personnel to call a physician in a serious emergency when the parent cannot be reached.

The above-mentioned information is needed for each pupil and should be kept up to date. In Cranford, New Jersey, the schools obtain much of the information suggested above through use of the card illustrated in Figure II. Many schools find it desirable to include a line authorizing school personnel to call a physician if they think it necessary in an emergency when a parent cannot be reached.

Getting the Pupil Home

When a pupil becomes ill or injured at school, it may be necessary for him to be taken home, to a doctor, or to a hospital. This responsibility should ordinarily be assumed by a parent. Policies regarding transportation of an injured pupil when the parents cannot be reached should be developed locally. Volunteers may be used, a list of such individuals being kept in the principal's office. In some instances reliance is placed on commercial taxi service, while in others transportation is provided by a school employee.

No seriously sick or injured pupil should be allowed to go home without being accompanied by a responsible adult. Moreover,

FIGURE 11 **EMERGENCY CARD**
Cranford Public Schools

In case of an important emergency, it may be necessary to contact parents during school hours. To make this possible, please furnish us the following information.

Name of Pupil Home Room Teacher Grade

Address Home Telephone

Father's Business Address Tel.

Mother's Business Address Tel.

If we are unable to contact parents in emergency situations, it is important that we have other references (such as local friends or relatives and family physician) whom you authorize us to contact.

Name Address Tel.

Name Address Tel.

Name Address Tel.

Physician's Name Address Tel.

Date Parent's Signature

a pupil should not be left at his home unless there is some responsible person to take care of him—a parent, close relative, or neighbor designated by the parent. Placing this responsibility on another pupil is neither safe nor fair.

Many authorities believe that a nurse should accompany a pupil home only when his condition suggests that he may need her professional attention en route. This belief is based on a feeling that her special skills are not needed to transport pupils and may be used otherwise to better advantage.

Helping Parents

At times parents fail to understand the importance of further care for a sick or injured child or do not know where to turn for help. Therefore, the member of the school staff who notifies the parent should be prepared to assist with advice on subsequent action, such as helping the parent to reach a physician, to select a hospital, or to arrange for transportation. This is an opportunity to apply the techniques of counseling. (See Chapter 6, "Health Counseling.")

In cases where subsequent treatment is necessary, the parent or other individual responsible for the child or youth should be informed of the nature of the emergency aid already given.

In some cities, the assistance of the police may be obtained in arranging necessary emergency attention or in taking a pupil home or to a hospital. Details of such procedures need to be worked out locally.

An Illustration

Many schools have written guides, often called standing orders, in which policies and procedures for dealing with emergencies are described and explained. Sometimes state departments of education and state departments of health cooperatively develop recommendations for the guidance of local communities. Illustrative of the latter approach is a statement on "Emergency Care Procedures" prepared by the Illinois Joint Committee on School Health. This states:

> Written policies should be developed jointly by the school administrator, and by local medical and dental societies, with the advice and consultation of the local and regional health department. Consideration should be given to the following:
>
> A. Two or more designated school personnel should be qualified in first aid by taking American Red Cross First Aid Course.
>
> B. Emergency care procedures should be so well planned that proper first aid can be given until a physician can be consulted. Everyone on the school staff should have a knowledge of the school first aid procedures and policy.
>
> C. One or more completely equipped steel-case first aid kits should be strategically located in each school. The number of kits will depend upon the size and type of school, but one kit should be located in each shop or laboratory presenting an accident hazard. A person trained in first aid should make a detailed inspection of the kits at the beginning of each semester and following each use of the kit.
>
> D. Each pupil's cumulative health record should list in order of preference persons to be notified when a student needs emergency medical attention. In all cases, parent, guardian, or other responsible person must be notified.
>
> E. Plans should be made for arranging transportation for children who have sudden illness or accidents.
>
> F. Information concerning each illness or injury and what was done should be entered on the pupil's cumulative health record.[1]

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[1] Illinois Joint Committee on School Health. *Guidelines for School Health Programs.* Springfield, Ill.: Office of the Superintendent of Public Instruction, 1961.

Since emergency procedures need to be tailored to local conditions, needs, and resources, each school system should study the recommendations of its state departments of education and health and adapt them to its own situation.

FACILITIES AND SUPPLIES

In order that emergency care may be administered properly, it is desirable that suitable facilities be provided at each school and that appropriate supplies be available. Some person needs to be given responsibility for periodically checking first aid supplies and for replenishing them when necessary.

The Health Room

A room in each school should be designated as the "health room" and used as the place where most emergency care ordinarily will be given. In large schools, a suite of rooms is desirable so as to provide space for vision testing, special examinations, and individual counseling in addition to space needed for giving emergency care.

Recommended Supplies

The health room should contain a cabinet with appropriate first aid supplies, but such supplies will be needed in other places also. First aid for minor injuries may be applied by pupils or teachers in the classroom if suitable supplies are at hand. Similarly, first aid kits should be available in places where accidents occur frequently—gymnasiums, laboratories, shops, and home economics rooms. School buses should be provided with first aid materials since emergencies may occur at places far removed from other sources of supplies.

The kind and amount of supplies and equipment needed for emergency care vary with the size of the school and the availability of medical, ambulance, and hospital services. The school administrator should be aware of state regulations relating to first aid supplies, since lists of suggested materials are sometimes prepared by state departments of education.

Final selection of materials should be based on recommendations of the school medical advisor, health officer, or school health committee of the county medical society.

Appropriate first aid supplies for schools are listed on the following page.

First Aid Supplies*

First Aid Item	Use
1. Sterile first aid dressing in sealed envelope 2" x 2" for small wounds	For open wounds or dry dressings for burns. These are packaged sterile. Do not try to make your own.
2. Sterile first aid dressing in sealed envelope 4" x 4" for larger wounds and for compress to stop bleeding	
3. Small sterile compress with adhesive attached, in sealed envelopes	
4. Roller bandage 1" x 5 yds.	Finger bandage
5. Roller bandage 2" x 5 yds.	To hold dressings in place
6. Adhesive tape, roll containing assorted widths	To hold dressings in place
7. Triangular bandages	For sling; as a covering over a larger dressing
8. Mild soap	For cleaning wounds, scratches, and cuts
9. Absorbent cotton, sterilized	Swabs or pledgets for cleaning wounds
10. Applicator sticks	For making swabs
11. Tongue blades	For splinting broken fingers and stirring solutions
12. Scissors with blunt tips	For cutting bandages or clothing
13. Tweezers	To remove stingers from insect bites or to remove small splinters
14. Splints ¼" thick, 3½" wide, 12-15" long	For splinting broken arms and legs
15. Table salt	For shock—dissolve 1 teaspoon salt and ½ teaspoon of baking soda in 1 quart of water.
16. Baking soda	" " " "
17. Hot water bottle with cover	Local relief of pain
18. Ice bag	Local relief of pain and to prevent or reduce swelling Burns
19. Tourniquet. Wide strip of cloth 20" long, and a short stick	For use in severe injuries when no other method will control bleeding
20. Eye dropper	For rinsing eyes

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* Adapted from *First Aid Manual* prepared by the Council on Occupational Health and Department of Health Education of the American Medical Association.

In addition to the supplies listed, the following equipment may be provided: wash basin, container for heating water, heating unit, paper drinking cups, forceps, flashlight, safety pins, spoons, paper and cloth towels, disposable tissue, thermometer, and several blankets. One or more stretchers should be available in each school.

The quantities of various items ordered should be sufficient to last through the school year; thus time is saved, inconvenience of reordering is eliminated, and material is at hand when needed. A good margin of safety is desirable, since the cost of most items is small and many can be kept indefinitely. Individual items may be purchased separately or commercial kits may be ordered. When kits are considered for purchase, they should be checked carefully to make sure they contain the items needed and in the amounts desired.

No drugs are included in the list of recommended school first aid supplies. Even the simplest and safest drugs sometimes cause reactions. When they mask pain or other symptoms, they may be a factor in delaying diagnosis and treatment. For these reasons, drugs should not be included with first aid materials, and the administration of drugs should not be considered a function of school personnel.

RECORDS, LEGAL LIABILITY, AND ACCIDENT INSURANCE

Records are important in emergency care programs. Many days after an emergency, particularly one due to an accident, information about what happened, what was done to aid the injured, and who did it may be necessary to assist in the settlement of an insurance claim or to protect school personnel against charges of negligence. Records are also needed for studying the causes of accidents and for planning accident prevention programs.

Report Forms

Analysis of school accidents and their ramifications into many aspects of the school program is possible only when there are complete reports on every accident. Such reports may be used to adjust school health services to local needs and to suggest desirable modifications in the structure, use, and maintenance of buildings, grounds, and equipment.

Accident reports are also a means of improving and vitalizing safety education. Pupils should be encouraged to study the incidence of accidents in and around their school and to formulate suggestions to promote safety.

Reports should be kept of at least the following types of injuries: (a) all injuries which require a doctor's care or which keep a student out of school one-half day or more, regardless of whether the student is injured on school property, at home, en route to or from school, or elsewhere; and (b) all school jurisdictional injuries, however slight. Unless otherwise interpreted by law, administrative ruling, or court action, school jurisdictional injuries are those occurring while students are on school property, in the school building, on the school grounds or athletic field, on the way to or from school, or at school-sponsored activities away from school.

Information on accident reports should include date, time, site, witnesses, nature and extent of injury, how accident happened, what first aid was given and by whom, instructions given, parent notification, and transportation supplied. It is important that teachers and other staff members understand the importance of these reports and the need for their being filled out accurately and completely. Usually several copies of each report will be required.

It is recommended that schools adopt the *Standard Student Accident Reporting System* of the National Safety Council. This system has been carefully developed by educators and safety experts and is now used extensively. It includes an individual student accident report form (see Figure III); monthly accident summary forms, one for boys and one for girls (see Figure IV); and annual student accident summary forms for boys and girls.*

Legal Liability

Laws in regard to legal liability for negligence in relation to accidents and emergency care differ in the various states. It is important, therefore, that school personnel know the local status of teachers, bus drivers, administrators, and school boards regarding accidents in connection with any part of the school program, with particular attention to such activities as field trips, transportation, athletics, school safety patrols, and driver education.

Legal liability may result from not doing what should be done or from doing what should not be done. This viewpoint is well expressed in the following statement:

> Innocent as teachers and administrators may individually feel themselves to be of wrongful conduct toward their pupils, cases do arise in which pupils or their parents sue on account of injuries sustained by pupils while under school control. Every person has a right to freedom from bodily injury, intentionally or carelessly caused by others; yet in every human relationship

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* Forms and instructions for their use can be obtained from the National Safety Council, 425 North Michigan Avenue, Chicago, Illinois, 60611.

> there is some possibility of injury. If the risk is great, the legal liability for possible injuries should be investigated.
>
> If a pupil is injured . . . and no person with medical training is available, the proper action to be taken by the teacher depends upon the nature of the injury. If immediate first aid treatment seems indicated, the teacher is obligated by his relationship to the pupil in loco parentis to do the best he can. Only such first aid knowledge as is expected of laymen is required of teachers in these circumstances, but every teacher should be trained in at least the rudiments of first aid. If the injured pupil does not need immediate attention, the teacher should await the attendance of a medically trained person rather than attempt to do something which may leave the pupil in worse condition. Failure to act or unwise action may lead to a charge of negligence against the teacher.
>
> The situation, however, is quite different if a pupil is in need of medical treatment in the absence of an emergency such as an accident. Teachers without medical training should not attempt medical treatment in such cases. If they do so and act unwisely, they may be subject to a charge of negligence.[2]

In general, conduct classifiable as negligence may be of two types: (a) "an act which a reasonable man would have realized involved an unreasonable risk of injury to others, and (b) failure to do an act which is necessary for the protection or assistance of another and which one is under a duty to do." [3]

Some pupils may refuse to accept first aid because of certain beliefs which they or their parents hold. Constitutionally, this is within their rights. In such instances, the school should promptly inform the parents when an emergency occurs so that responsibility is placed upon them. Careful records of the case, attested by witnesses, should be kept. Local schools should anticipate such problems and obtain legal advice in advance regarding the school's responsibilities and powers.

Accident Insurance Plans

The value of accident insurance to aid parents in meeting at least part of the expense involved in obtaining treatment for injured children and youth is becoming increasingly recognized. Some families purchase insurance coverage for the entire family; many make use of Blue Cross and Blue Shield programs or similar types of private insurance to help pay for hospital and medical expenses. Optimum use of such insurance will help to assure children and youth proper care in cases of injury.

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[2] National Education Association, Research Division and National Commission on Safety Education. *Who Is Liable for Pupil Injuries.* Washington, D.C.: the Association, 1950. pp. 4 & 25.

[3] *Ibid.*, p. 6.

FIGURE III | **STANDARD STUDENT ACCIDENT REPORT FORM**

Part A. Report ALL Accidents to Students Occurring Anywhere, Day or Night

1. Name:________________ Home Address:________________
2. School:________________ Sex: M ☐; F ☐. Age:______ Grade or classification:______
3. Time accident occurred: Hour______ A.M.;______ P.M. Date:________________
4. Place of Accident: School Building ☐ School Grounds ☐ To or from School ☐ Home ☐ Elsewhere ☐

NATURE OF INJURY	Abrasion ___	Fracture ___	**DESCRIPTION OF THE ACCIDENT**
	Amputation ___	Laceration ___	How did accident happen? What was student doing? Where was student? List specifically unsafe acts and unsafe conditions existing. Specify any tool, machine or equipment involved. ________________
	Asphyxiation ___	Poisoning ___	
	Bite ___	Puncture ___	
	Bruise ___	Scalds ___	
	Burn ___	Scratches ___	
	Concussion ___	Shock (el.) ___	
	Cut ___	Sprain ___	
	Dislocation ___		
	Other (specify) ________		
PART OF BODY INJURED	Abdomen ___	Foot ___	
	Ankle ___	Hand ___	
	Arm ___	Head ___	
	Back ___	Knee ___	
	Chest ___	Leg ___	
	Ear ___	Mouth ___	
	Elbow ___	Nose ___	
	Eye ___	Scalp ___	
	Face ___	Tooth ___	
	Finger ___	Wrist ___	
	Other (specify) ________		

6. Degree of Injury: Death ☐ Permanent Impairment ☐ Temporary Disability ☐ Nondisabling ☐
7. Total number of days lost from school: ______ (To be filled in when student returns to school)

Part B. Additional Information on School Jurisdiction Accidents

8. Teacher in charge when accident occurred (Enter name):________________
Present at scene of accident: No:______ Yes:______

FIGURE III—Continued

9. IMMEDIATE ACTION TAKEN

First-aid treatment ___ By (Name): ____________
Sent to school nurse ___ By (Name): ____________
Sent home ___ By (Name): ____________
Sent to physician ___ By (Name): ____________
Physician's Name: ____________
Sent to hospital ___ By (Name): ____________
Name of hospital: ____________

10. Was a parent or other individual notified? No:___ Yes:___ When:______ How:______
Name of individual notified:____________
By whom? (Enter name):____________

11. Witnesses: 1. Name:____________ Address:____________
2. Name:____________ Address:____________

12. LOCATION

Specify	Activity	Specify	Activity	Remarks
Athletic field	______	Locker	______	What recommendations do you have for preventing other accidents of this type?______
Auditorium	______	Pool	______	______
Cafeteria	______	Sch. grounds	______	______
Classroom	______	______shop	______	______
Corridor	______	Showers	______	______
Dressing room	______	Stairs	______	______
Gymnasium	______	Toilets and washrooms	______	______
Home Econ.	______			______
Laboratories	______	Other (specify)	______	______

Signed: Principal:____________ Teacher:____________

(National Safety Council—Form School 1) Printed in U.S.A. Stock No. 429.21
Rep. 100M76102

Please Read Carefully **Instructions** **Fill in Completely**

A. Use Part A of the form to report any accident to a student at any place (home, school or elsewhere) any time of the day or night.

B. Use Part B of the form to report additional information about accidents to students while under school jurisdiction.

☐ Place an "X" in the box at the upper right-hand of the form for an accident sufficiently serious to require a doctor's care or to keep a child out of school one-half day or more. Only such accidents should be included in your annual summary to the National Safety Council.

IMPORTANT: In order that maximum use be made of accident reports, it is essential that the accident be described in sufficient detail to show the unsafe acts and unsafe conditions existing when the accident occurred. The description should answer such questions as: What was the student doing at the time of the accident? (Playing tag or football, operating lathe, cutting lawn, etc.) Was he using any apparatus, machine, vehicle, tool or equipment? How was he using it? Would it have been safer to do it some other way?

FIGURE IV STUDENT ACCIDENT SUMMARY FORM

Use this form for MALE STUDENTS

Form School 2M

School System__________ City and State__________

Month of__________ Year__________

No. of school days in above month__________(There were__________accidental deaths this month.)

CLASSIFICATION	STUDENT ACCIDENTS BY GRADE															Days Lost All Grades
	All Grades	K'g'n	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	9th Grade	10th Grade	11th Grade	12th Grade	Un-class.	
1. TOTAL ACCIDENTS																
ENROLLMENTS & DAYS LOST																
2. Enrollments																
3. Days lost—this month's accidents																
4. Days lost this month from previous month's accidents																
SCHOOL JURISDICTION ACCIDENTS																
5. Total School Jurisdiction Accidents																
A. Shops and Labs																
6. Homemaking																
7. Science																
8. Driving (practice)																
9. Vocational & ind. arts																
10. Agricultural																
11. Other labs																
12. Other shops																
B. Building—General †																
13. Auditoriums and classrooms																
14. Lunchrooms																
15. Corridors																
16. Lockers (room & corridor)																
17. Stairs and stairways (inside)																
18. Toilets and washrooms																
19. Other																

C. Grounds—Unorganized Activities
20. Apparatus
21. Ball playing
22. Running
23. Other
D. Grounds—Misc.
24. Fences & walls
25. Steps & walks (outside)
26. Other
E. Physical Education †
27. Apparatus
28. Class games
29. Baseball—hard ball
30. Baseball—soft ball
31. Football—regular
32. Football—touch
33. Basketball
34. Hockey
35. Soccer
36. Track and field events
37. Volleyball & similar games
38. Other organized games
39. Swimming
40. Showers & dressing rooms
41. Other
F. Intra-Mural Sports †
42. Baseball—hard ball
43. Baseball—soft ball
44. Football—regular
45. Football—touch
46. Basketball
47. Other
G. Inter-Scholastic Sports †
48. Baseball—hard ball
49. Baseball—soft ball
50. Football—regular
51. Basketball
52. Track and field events
53. Other

FIGURE IV—Continued

CLASSIFICATION	STUDENT ACCIDENTS BY GRADE															Days Lost All Grades
	All Grades	K'g'n	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	9th Grade	10th Grade	11th Grade	12th Grade	Un-class.	
SCHOOL JURISDICTION ACCIDENTS—continued																
H. Special Activities																
54. Trips or excursions																
55. Student dramatics																
56. Student concerts																
57. Other																
I. Going To and From School (Mot. Veh.)																
58. School bus*																
59. Public carrier (incl. bus)*																
60. Motor scooter*																
61. Other mot. veh.—pedestrian																
62. Other mot. veh.—bicycle																
63. Other mot. veh.—other type																
J. Going To and From (Not Mot. Veh.)																
64. Bicycle—not mot. veh.																
65. Other street & sidewalk																
66. Other																
NONSCHOOL JURISDICTION ACCIDENTS																
67. Total Nonschool Jurisdiction Accidents																
K. Home																
68. Falls—same level																
69. Falls—different level																
70. Cuts and scratches**																
71. Burns and scalds**																
72. Firearms																
73. Other																
L. Sports																
74. Baseball																
75. Football																
76. Firearms																
77. Winter sports																

FIGURE IV **STUDENT ACCIDENT SUMMARY FORM**

Use this form for MALE STUDENTS

NATIONAL SAFETY COUNCIL

Form School 2M

School System____________ City and State____________

Month of____________ Year____________

No. of school days in above month____________ (There were______ accidental deaths this month.)

CLASSIFICATION	STUDENT ACCIDENTS BY GRADE															Days Lost All Grades
	All Grades	K'g'n	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	9th Grade	10th Grade	11th Grade	12th Grade	Un-class.	
1. TOTAL ACCIDENTS																
ENROLLMENTS & DAYS LOST																
2. Enrollments																
3. Days lost—this month's accidents																
4. Days lost this month from previous month's accidents																
SCHOOL JURISDICTION ACCIDENTS																
5. Total School Jurisdiction Accidents																
A. Shops and Labs																
6. Homemaking																
7. Science																
8. Drivers (practice)																
9. Vocational & ind. arts																
10. Agricultural																
11. Other labs																
12. Other shops																
B. Building—General †																
13. Auditoriums and classrooms																
14. Lunchrooms																
15. Corridors																
16. Lockers (room & corridor)																
17. Stairs and stairways (inside)																
18. Toilets and washrooms																
19. Other																
C. Grounds—Unorganized Activities																
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46. Basketball																
47. Other																
G. Inter-Scholastic Sports †																
48. Baseball—hard ball																
49. Baseball—soft ball																
50. Football—regular																
51. Basketball																
52. Track and field events																
53. Other																

FIGURE IV—Continued

CLASSIFICATION	STUDENT ACCIDENTS BY GRADE															Days Lost All Grades
	All Grades	K'g'n	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	9th Grade	10th Grade	11th Grade	12th Grade	Un-class.	
SCHOOL JURISDICTION ACCIDENTS—continued																
H. Special Activities																
54. Trips or excursions																
55. Student dramatics																
56. Student concerts																
57. Other																
I. Going To and From School (Mot. Veh.)																
58. School bus*																
59. Public carrier (incl. bus)*																
60. Motor scooter*																
61. Other mot. veh.—pedestrian																
62. Other mot. veh.—bicycle																
63. Other mot. veh.—other type																
J. Going To and From (Not Mot. Veh.)																
64. Bicycle—not mot. veh.																
65. Other street & sidewalk																
66. Other																
NONSCHOOL JURISDICTION ACCIDENTS																
67. Total Nonschool Jurisdiction Accidents																
K. Home																
68. Falls—same level																
69. Falls—different level																
70. Cuts and scratches**																
71. Burns and scalds**																
72. Firearms																
73. Other																
L. Sports																
74. Baseball																
75. Football																
76. Firearms																
77. Winter sports																
78. Water sports																
79. Other																
M. Motor Vehicle																
80. Public carrier (incl. bus)*																
81. Motor scooter*																
82. Motor vehicle—pedestrian																
83. Motor vehicle—bicycle																
84. Motor vehicle—other type																
N. Other																
85. Bicycle (not mot. veh.)																
86. Other street & sidewalk																
87. Playground (not school)																
88. Park (except playground)																
89. Public building																
90. Industrial premises (incl. railroad)																
91. Other																

Any accident in Physical Education, unless Intra-Mural or Inter-Scholastic, should be classified under "E".

* Pedestrian and bicycle accidents with these types of vehicles are to be classified on these lines, not on lines No. 61 and 62.

** Include only those injuries which do not result from falls, firearms or poisons.

INSTRUCTIONS

This report may be readily prepared for your use on a monthly basis. The monthly summaries may be combined for the Annual Student Accident Summary to the National Safety Council.

NOTE: Enrollment and Days Lost figures should be furnished for each grade so that student accident rates can be computed.

Include only those accidental injuries requiring a doctor's attention or causing absence from school of one-half day or more.

Be sure to fill classification totals by grade (lines A, B, C, etc.)

REPORT MADE BY:

Name____

Title____

Stock No. 429-22-1

Rev. 30M96101

Printed in U.S.A.

78. Water sports
79. Other
M. Motor Vehicle
80. Public carrier (incl. bus)*
81. Motor scooter*
82. Motor vehicle—pedestrian
83. Motor vehicle—bicycle
84. Motor vehicle—other type
N. Other
85. Bicycle (not mot. veh.)
86. Other street & sidewalk
87. Playground (not school)
88. Park (except playground)
89. Public building
90. Industrial premises (incl. railroad)
91. Other

† Any accident in Physical Education, unless Intra-Mural or Inter-Scholastic, should be classified under "E".

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Name____

Title____

Rev. 30M96101 Printed in U.S.A. Stock No. 429-22-1

Sometimes group accident insurance programs are developed through the initiative and leadership of school personnel. These are of different types: some are available to all pupils, while others are limited to those who participate in interscholastic sports. Some policies cover injuries which take place at any time in any place; others may exclude those incurred during interscholastic athletics unless an extra premium is paid. Because of these variations, proposed policies should be studied carefully and all interested parties fully informed of the type and extent of the coverage they provide.

The premiums of policies are in proportion to the benefits they provide. Usually parents pay the premium although, in the case of pupils from needy families, the board of education may pay it.

PLANNING FOR DISASTERS

Various types of disasters may strike a school, such as fire, flood, hurricane, tornado, earthquake, or even an enemy bomb attack. Such emergencies call for prompt and smooth handling of large numbers of children and youth, a goal which can be realized only if a situation is anticipated and plans made to meet it. Frequent rehearsals or drills are needed in order to familiarize the school staff and pupils with the procedures to be followed.

Part of a Community Program

School efforts in dealing with an emergency situation need to be integrated with community-wide activities. In the present world situation, communities must be prepared for national disasters as well as for the emergency handling of enemy attacks by fire, explosives, or radioactive weapons. School personnel need to work hand-in-glove with community civil defense groups. There must be complete understanding of the respective roles of parents, schools, and community health, defense, and welfare organizations.

The main difference between a disaster and day-by-day emergencies is that the number of victims is greater. The first aid measures for injured individuals are the same, but plans must be made for the transportation of the injured to first aid stations or hospitals, as well as the prevention of panic and maintenance of order. Hospital personnel should be informed quickly of any disaster involving many school children, so that they can prepare for the care of victims.

Leaders in every community need to develop procedures to be followed in dealing with the unusual conditions that would result from nuclear attack. What shelters are available? What food and medical supplies need to be stockpiled? If a disaster occurs during school hours, will pupils be kept in school or sent home? Should the school be prepared to house and feed children for many days? Answers to these questions and many others need to be formulated in each local community and frequently revised to meet changing conditions. Basic information helpful in analyzing the problem is contained in the booklet, *Fallout Protection—What To Know and Do About Nuclear Attack.*[4]

Implications for School Instruction

Instruction in civil defense measures are based on the premise that every student should be given an opportunity, through experiences in the school, to develop understandings, attitudes, and skills which will prepare him (a) to be self-reliant, (b) to participate in the civil defense program, and (c) to help others in an emergency. The instruction program should help pupils learn beforehand what they should do in time of an emergency, where they should go, and to whom to look for guidance. It should include sufficient practice to encourage pupils to develop desirable skills and habits.

CARING FOR INJURED OR SICK PUPILS

Detailed instructions for giving emergency care for the many types of injuries and sickness that may occur in schools should be prepared locally with the assistance of the school medical advisor or health officer, if available, and of representatives of the local medical society. First aid procedures for injuries and sickness are discussed and described in the *First Aid Textbook*, published by the American Red Cross.[5]

Caring for Injuries

Those responsible for providing emergency care for injured pupils must use good judgment in deciding the relative importance of various procedures. Steps to be taken in sequence are: (a) Check for and give aid to "hurry cases" such as serious bleeding, chemicals in the eye, asphyxiation, and poisoning. (b) Keep the injured person lying down and guard against chilling. (c) Give first aid care to other injuries. Some general principles to apply are as follows: (a) Be calm and deliberate—take your time except for the "hurry cases." (b) Call or have someone call a physician, giving carefully and accurately all the information he requests. (c) Tactfully encourage and reassure the victim, letting him know that he will be given the care he needs. (d) Keep the handling of the victims to a minimum. (e) Splint fractured bones before the individual is moved.

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[4] Department of Defense, Office of Civil Defense. *Fallout Protection—What To Know and Do About Nuclear Attack.* Washington, D. C.: Government Printing Office, 1961. 47 pp.

[5] American Red Cross. *First Aid Textbook.* Fourth edition. Garden City, N. Y.: Doubleday & Co., 1957. 241 pp.

What is not done may be as important as what is done. Here are a few suggestions: (a) Don't attempt to give liquid to an unconscious person. (b) Don't try to arouse an unconscious person. (c) Don't let a victim see a serious injury, if this can be avoided. (d) Don't move a person with a suspected neck or spine injury. (e) Don't apply a tourniquet unless continued direct pressure fails to control bleeding.

Looking After a Sick Pupil

The teacher is occasionally confronted by illness in one of his pupils and should render appropriate first aid. The symptoms and signs may represent an episode in a long-present disease or reveal initial evidence of a new disease.

Teachers should know of the existence of chronic disease in their pupils, particularly conditions which may require first aid. For example, if a pupil has diabetes, heart disease, or epilepsy, it is only fair to the teacher, and beneficial to the pupil and his parents, to let the teacher know of the condition.

When evidence of illness appears, the teacher must decide what action, if any, is necessary. He should not attempt to diagnose or to determine what the illness is or whether it will be serious. Headache, sniffles, nausea, earache, abdominal discomfort, skin lesions, and weakness may signify either mild, transient ailments or the onset of serious local or systemic disease. The important consideration is that the acutely sick pupil belongs at home, not in school.

When a pupil becomes sick, the procedures to be followed are the same as those recommended in caring for accidents. Decision concerning notification of parents requires judgment based on the pupil's statement of his feelings and the teacher's observation of his appearance and behavior, but in case of doubt, it is best to notify parents and have the pupil taken home.

Guides for Teachers

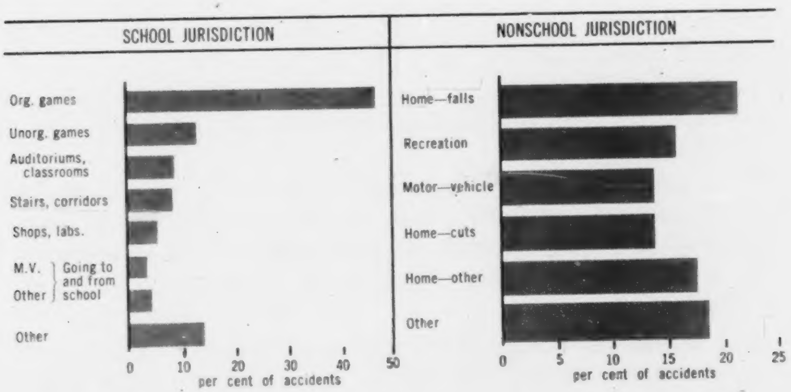
As guides for dealing with sick pupils, the following general principles are suggested:

1. Give careful consideration to a pupil's statement of his feelings. It is not always possible to secure objective evidence of sickness.
2. A pupil having a fever should not remain in school. Mouth temperature of 100°F., with or without symptoms, is sufficient evidence to consider a pupil unfit for school activities.
3. A child with diarrhea should not be permitted to remain in school.
4. Presence of abdominal discomfort not definitely explained as menstrual cramps may signify appendicitis or other emergency condition. Parents should be notified of the pupil's condition and urged to obtain medical attention. No food or medication should be given.
5. Pupils with severe colds or coughs should not stay in school.
6. Sniffles, reddened eyes, sore throat, skin rashes, headache, and abdominal pain may be signs of beginning communicable disease. Pupils with such conditions should be separated from others immediately. (See Chapter 10, "Communicable Disease Control.")
7. Skin eruptions or rashes should be considered communicable unless medical opinion to the contrary is expressed.

When the teacher is in doubt about what course of action to take, he should consult the physician or nurse, if one is available, and his principal or superintendent. Frequently, it is possible to confer with the parent by telephone. It is easy to seek advice but difficult to explain indifference or procrastination if serious conditions develop.

If a parent is unable to come to the school for a sick pupil, school personnel should see that a seriously sick pupil is accompanied home by a responsible adult. It may be wise to suggest to the parent that a physician be asked to see a sick pupil or that the parent and physician decide whether the pupil should be sent directly to a hospital.

FIGURE V RELATIVE IMPORTANCE OF AREAS WHERE ACCIDENTS OCCUR



* The above charts indicate the relative importance in terms of accidents of various areas and activities in school and nonschool jurisdictions. The two charts should not be compared since reports are more complete for school jurisdiction than for nonschool jurisdiction.

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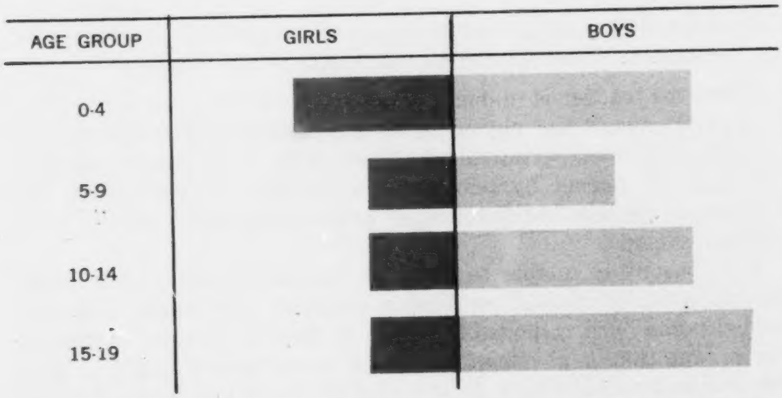
FIGURE VI SEX DIFFERENCES IN ACCIDENTAL DEATHS



Source: National Office of Vital Statistics

RELATED HEALTH EDUCATION

Education can be an effective force in preventing accidents and in helping pupils learn what they should do when injury or sickness occurs. Experiences designed for these purposes are often included as part of a broad, comprehensive program of health education.

Importance of Safety Education

Since accidents are the chief causes of death during school ages—and even in young adults—the importance of giving high priority to safety education cannot be overemphasized. Instruction in safety can save lives. It can reduce the suffering, crippling, and expense caused by the many million nonfatal accidents which occur each year.

Safety education must be adapted to the varying interests and needs of pupils at different grade levels and should involve pupils to as full an extent as possible in analyzing the causes of various types of accidents and in devising suggestions for accident prevention. It should include study of accidents in the home, at school, and on the street; accidents at work and at play; and accidents caused by motor vehicles, fires, firearms, and machinery, as well as those involving falls, poisoning, drowning, and asphyxiation.

Safety precautions should permeate all school activities. For example, guards should be installed around power saws and other machinery, goggles should be worn when there is a possibility of flying particles, and pupils should be instructed in regard to the safe use of chemicals.

The relationship between emotions and accidents may well be included in instruction relating to safety. A group which discussed this subject at the Sixth National Conference on Physicians and Schools reported: "While there are some persons who have an undue number of accidents caused by some serious emotional or mental problems, more important as a cause of accidents is lack of emotional control by the normal person. Thus all of us during periods of anger, depression or preoccupation are more likely to have accidents than at other times." [6]

The subject of safety was discussed at a recent meeting of the Joint Committee on Health Problems in Education of the National Education Association and American Medical Association. Recognizing accidents as hazards to life and limb in all parts of the country, the Committee adopted a resolution, a part of which follows:

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[6] American Medical Association. *Report of the Sixth National Conference on Physicians and Schools.* Chicago: the Association, 1957. p. 65.

> The safety program in the schools should be developed in close correlation with and be a part of the community program, in order that it include the safety of children in the school, in the home and in their community. While it should be a vital part of the curriculum, its educational aspects should be directed toward pupils, school personnel and parents. Constant care must be taken to present facts in such a way as to prevent rather than cause panic and to maintain healthy emotional attitudes among pupils and personnel in emergency situations. In order that the program be adapted to the hazards peculiar to the local situation, it should include a continuing study of unsafe acts and unsafe conditions, and their elimination in the school. This includes the routine inspection against fire, explosion, structural failure, etc., by the proper authorities. Attention is called to the importance of conscientious accident reporting in schools as being promoted by the National Safety Council.

The resolution also calls attention to certain facets of a comprehensive safety program that the Committee feels are of primary importance. It points out the need of each school system for a skilled safety coordinator. It expresses the view that playground activities should be supervised. The need for driver education is stated. The resolution suggests that local medical and dental societies help plan programs to insure prompt and adequate medical and dental services.

Teaching About Emergencies

All pupils should receive instruction relating to the care of the sick or injured in time of emergency. There will be limitations, of course, depending on age, but even the youngest should receive some instruction. By the time a pupil reaches junior high school he should be reasonably skilled in first aid; at the time he is ready for graduation he should be well qualified in first aid as well as in various aspects of home care of the sick.

Instruction in first aid and home care of the sick should be integral parts of the health education program of junior and senior high schools. They should be given an appropriate amount of time in health courses but should not crowd out other important health areas. The instruction should include discussion of the school's program for handling emergencies.

At the time of an accident or sudden illness or while the incident is still fresh in pupils' minds, there should be class discussion of what occurred. All aspects of the injury or illness may be considered, while avoiding embarrassment of the pupil involved. Care should be taken not to arouse undue fears, particularly on the part of young children.

Student interest will be revealed by their questions. What caused the accident? How could it have been prevented? What care was given? Why is it necessary in some instances to see one's doctor? These questions should be answered as fully as the age of pupils warrants and should be utilized to extend and expand pupils' understanding of health and the precautions necessary to guard it.

By instructing pupils in safety and first aid, schools can help to reduce the present startling toll of accidental deaths and injuries and can help children and youth develop the understandings and skills that are needed to administer first aid.

FOR FURTHER READING

AMERICAN MEDICAL ASSOCIATION. *Report of the Sixth National Conference on Physicians and Schools.* Chicago: the Association, 1957. 150 pp.

AMERICAN RED CROSS. *First Aid Textbook.* Fourth edition. New York: Doubleday and Co., 1957. 241 pp.

KIGIN, DENIS J. *Teacher Liability in School—Shop Accidents.* Ann Arbor, Mich.: Prakken Publications, 1963. 128 pp.

LOS ANGELES CITY SCHOOLS. *Report of Accidents to Pupils and Employees—A Comparative Study.* Los Angeles: Division of Instructional Services, 1961. 59 pp.

NATIONAL EDUCATION ASSOCIATION, NATIONAL COMMISSION ON SAFETY EDUCATION. *Checklist of Safety and Safety Education in Your School.* Washington, D. C.: the Association, 1953. 48 pp.

NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION AND NATIONAL COMMISSION ON SAFETY EDUCATION. *Who is Liable for Pupil Injuries.* Washington, D. C.: the Association, 1950. 32 pp.

NATIONAL SAFETY COUNCIL. *Accident Facts.* Chicago: the Council. Published annually.

SAFETY EDUCATION. Series of articles, "Preparing for Disasters." *Safety Education* XLI: 8; April 1962.

YOST, CHARLES PETER. *Teaching Safety in the Elementary Schools.* Washington, D.C.: American Association for Health, Physical Education, and Recreation, a department of the National Education Association, 1962. 32 pp.

Standard

Chapter **12**

Services Related to Environmental Sanitation

The health of adults and children is influenced by the environment in which they live, work, and play. The school environment, both physical and emotional, affects the health, comfort, and working efficiency of teachers and pupils. Although health service personnel frequently have responsibilities related to school environmental sanitation, they alone cannot provide a healthful environment. Teachers, administrators, members of the board of education, school health personnel, public health engineers, sanitarians, architects, custodians, and pupils share responsibility for environmental conditions.

Insanitary school conditions can result in the spread of numerous diseases. Unsafe water supplies may cause the spread of such diseases as typhoid fever and dysentery. Improper methods of food handling and of dishwashing in school cafeterias can cause epidemics of food poisoning or infection. Similarly, lack of attention to swimming pool sanitation may cause the spread of streptococcal, viral, and other infections. Conversely, good sanitation prevents the spread of many communicable diseases.

Over and above consideration of disease prevention, attention to environmental conditions helps to assure the comfort of pupils, teachers, and other occupants of a school building. Suitable furniture is desired as much for comfort as for the prevention of postural defects; good light is desired more for its aid to good seeing and its contribution to effective working conditions than for the prevention of eye defects. Comfortable, attractive classrooms help create an environment conducive to effective learning.

From an educational viewpoint, a sanitary environment, while being aesthetically desirable, helps pupils to develop standards and concepts of good sanitation. Moreover, appropriate sanitary facilities enable them to put into practice what they learn in their instructional programs. A portion of health teaching should be

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ss Photo Service

focused on the study of school sanitary facilities and the way they help to protect health.[1]

In actual practice, concern for school sanitation frequently is combined with consideration of factors related to fire and accident hazards and to the provision of facilities that aid in the conduct of a modern school program. Parents are required by law to send children to school. It follows that school authorities are both morally and legally responsible for seeing that pupils are not unnecessarily exposed to health and accident hazards while at school.

SURVEYING SANITARY FACILITIES

School health services should give attention to school sanitary conditions and facilities, and a complete detailed survey of each school building should be made at least once a year. The findings should be compared with those of prior years to determine what improvements have occurred and should also be used as a basis for recommending needed changes.

Leadership Is Required

Initiation of a sanitary survey requires the time and attention of some person who can give leadership to the project. The superintendent of schools should delegate this task to the best qualified individual available and give this person the necessary time and assistance to do the job well. Wherever possible, assistance should be obtained from the local health department.

Sanitary surveys provide the superintendent of schools and board of education with specific facts concerning the sanitary conditions and facilities which exist. Only on the basis of such information can they prepare budgets that include funds for needed improvements.

Help Is Available

The person responsible for school sanitation may obtain needed assistance from many sources. He can become acquainted with the building code of his state department of education, with the sanitary code of his state department of health, and with local ordinances and regulations. State departments of health and many local health departments employ qualified personnel who, on request, will advise on matters of environmental sanitation. Books and reports provide information that may be helpful, e.g., *American School Buildings,*[2] *Guide for Planning School Plants,*[3] *Environmental Engineering for the School,*[4] and *Healthful School Living.*[5] Many publications on particular problems of sanitation are available, some of which will be mentioned later.

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[1] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Healthful School Living*. Washington, D. C. and Chicago: the Associations, 1957. 323 pp. This publication describes desirable procedures for providing a healthful physical, emotional, and social environment for pupils and ways for utilizing the environment for educational purposes.

The Need for Standards

With the assistance of all the resources at his command, the individual responsible for school sanitation should develop a set of criteria, or standards, by which the sanitary conditions and facilities of each school building may be judged. These standards should relate to all aspects of sanitation and reflect present-day concepts of desirable sanitary practices.

SCHOOL SANITARY STANDARDS

No attempt can be made in a single chapter to list all sanitary standards applicable to school buildings. Comments will be made, however, on some of the more important aspects of school sanitation, and references will be given to additional sources of information. The following sanitary problems will be considered: water supply, sewage disposal, toilet facilities, heating and ventilation, lighting, cafeteria sanitation, and swimming pool sanitation.

Water Supply

The water supply for a school should be safe and sufficient in quantity to meet all normal needs of the present and the foreseeable future. The quantity of water required will vary with the facilities of the school. The following is a consensus based on recommendations of a number of state health and education departments and other reference material:

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[2] American Association of School Administrators. *American School Buildings.* Twenty-Seventh Yearbook. Washington, D. C.: the Association, a department of the National Education Association, 1948. 525 pp.

[3] National Council on Schoolhouse Construction. *Guide for Planning School Plants.* 1958 edition. East Lansing, Mich.: The Council (Floyd G. Parker, Michigan State University), 1958. 254 pp.

[4] U.S. Department of Health, Education, and Welfare, Public Health Service. *Environmental Engineering for the School—A Manual of Recommended Practice.* Public Health Service Publication No. 856. Washington, D. C.: Government Printing Office, 1961. 74 pp.

[5] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Op. cit.*

When water must be transported—2 gallons per person per day
When water is supplied to a building equipped with water-flush fixtures, exclusive of showers and kitchen outlets—20 gallons per person per day
When a building is fully equipped with flush fixtures, showers, and kitchen facilities—25 gallons per person per day

In addition, provision must be made for water to be used for fire protection. Special water needs exist in schools having swimming pools.

Water should meet or exceed the minimum chemical and bacteriological standards established by the United States Public Health Service.[6] The water, after treatment, should be free of infective organisms and relatively clear in appearance. It should have no objectionable taste or odor and should not have excessive amounts of soluble mineral substances or of any chemical used in treatment.

Sources of water supply will vary with the location of the school and local conditions. In urban and suburban communities a public water supply system will be used. This is desirable as it eliminates for school authorities the problems of procuring and treating water. In rural areas, an individual water supply system must be provided in most cases. The source of the water and the methods of procuring and treating it should meet local and state health regulations. Copies of these regulations and helpful suggestions are usually available from state and local health departments.

When the water supply is from other than an approved public source, periodic analyses are necessary to evaluate its safety. These may be performed by either local or state health authorities. Proper containers for use in securing samples of water, with instructions for their use, are obtainable from public health laboratories.

Plumbing Considerations

Water supplies may be rendered unsafe by connections which, under certain conditions, permit water from toilets, sewage systems, or unsafe water supplies to enter drinking water by back siphonage from poorly designed equipment or cross connections.[7] Many well-planned and well-installed water supply systems have been contaminated unintentionally by improper repairs or additions to the original plumbing.

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[6] U.S. Department of Health, Education, and Welfare, Public Health Service. *1963 Public Health Service Drinking Water Standards.* Public Health Service Publication No. 956. Washington, D. C.: Government Printing Office, 1962. 61 pp.

[7] U.S. Department of Health, Education, and Welfare, Public Health Service. *Water Supply and Plumbing Cross-Connections.* Public Health Service Publication No. 957. Washington, D.C.: Government Printing Office, 1963. 69 pp.

Sometimes water used for fire protection but not approved for drinking purposes is inadvertently interconnected to the drinking water supply. In the cafeteria, automatic equipment sometimes is installed with unapproved plumbing connections. Steam tables and mechanical dishwashing machines may be cross-connected with the drinking water system. The inlet to, and the drains from, swimming pools should be checked for faulty plumbing.

Drinking fountains are frequently notorious examples of poor plumbing. Many drinking fountains have below-the-rim nozzles and do not have inclined jets of water. The role of insanitary drinking fountains in the spread of disease is an established fact. Studies have shown a direct relationship between drinking fountains and disease and have pointed out the importance of the design, installation, and operation of drinking fountains.

The location and height of drinking fountains are factors related to convenience for users. The modern trend is to install a drinking fountain in each classroom or to provide a cold water faucet with paper cups and a paper cup dispenser. Where this is not feasible, at least one fountain should be installed on each floor for every 75 pupils normally using that floor. The fountains should be of a convenient height for pupils in accordance with the following table:

RECOMMENDED HEIGHTS FOR DRINKING FOUNTAINS

Kindergarten	23″
Grades 1 - 6	28″
Grades 7 - 9	30″
Grades 10 - 12	36″

The drinking fountain should be supplied with water having sufficient pressure to cause the jet to clear the orifice but not so much as to cause splashing. An adequate drain should be provided to carry waste water away quickly. Water supplied by the fountain should be cool.

Expert advice on drinking fountains and other plumbing features usually is available from local plumbing inspectors or public health engineers and sanitarians on the staff of local or state departments of health.

Waste Disposal

Safe and sanitary disposal of wastes is one of the keystones of environmental sanitation. The sewage disposal system should be of sufficient capacity to meet present and future needs and should be built, operated, and maintained in accord with local and state regulations. In communities with a public sewer system, disposal of sewage from the school is accomplished through a connection with the street sewer line.

In the absence of community sewers, an independent disposal system is required. This should be designed on the basis of the average daily water consumption and should consist of a septic tank or Imhoff tank and a subsurface drainage system, filter beds, or leaching cesspools.[8, 9]

The system should be designed by a sanitary or public health engineer. It should be based upon the character of the soil as determined by percolation (soil absorption) tests and the proximity of wells, streams, and other sources of water supply. The technique of making percolation tests is described in detail in the *Manual of Septic Tank Practice* published by the Public Health Service. Most state health departments publish a pamphlet on this subject and suggest minimum standards.

Special problems may arise if the school has science laboratories with wastes which may contain acids. Acid drainage should not be permitted to flow into a septic tank as it may kill or inactivate the bacterial flora necessary for the digestion of sewage sludge. It should bypass the septic tank and be carried directly into the drainage system if it is free of solids, or better yet, it should run directly into a separate system. Acid-proof pipe and fittings should be used. Some rural schools do not have running water under pressure and hence do not get rid of their wastes by means of a water-carried system. Satisfactory toilets for these schools are limited to chemical toilets, pit privies, or vault privies. Most state health departments have booklets describing the construction of sanitary privies. Basic considerations are that they be constructed in a manner that prevents entry of flies and rodents and prevents the contents from draining into a well or other sources of water. Sanitary maintenance is of utmost importance.

Attention should be given to proper garbage disposal. The modern trend is to install garbage grinders and to dispose of ground garbage through the sewer system. If the school is connected with

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[8] U.S. Department of Health, Education, and Welfare, Public Health Service. *Environmental Engineering for the School.* Public Health Service Publication No. 856. Washington, D. C.: Government Printing Office, 1961. 74 pp.

[9] U.S. Department of Health, Education, and Welfare, Public Health Service. *Manual of Septic Tank Practice.* Public Health Service Publication No. 526. Washington, D.C.: Government Printing Office. 91 pp.

a community sewer system, no problem is presented except to determine that the drain pipe is adequate in size and pitched sufficiently to cause a reasonably rapid flow. However, if sewage from the school flows to an independent system, the sludge digestion capacity of the septic or Imhoff tank should be determined and, if found inadequate, additional capacity provided.

In the absence of a garbage grinder, food residues from the cafeteria may be disposed of by local collection, burning, burying, or other method approved by sanitation authorities. Local collection where available is the method of choice. When garbage is incinerated, care must be taken to ensure complete combustion with a minimum of odor or smoke. This can be accomplished by proper firing of the incinerator with the alternate use of combustible rubbish and garbage augmented, if necessary, by supplementary fuel. Garbage may be buried provided it is done in an approved manner, that is, covered promptly with 24 inches of earth and in locations where water supply systems will not be affected. Garbage pits should be located at least 50 feet from any water supply or surface body of water.

In any case, prior to disposal, garbage should be stored in clean, watertight containers with tight-fitting lids kept properly in place. Garbage cans should be washed with hot water and a cleaning agent and scrubbed with a brush each time they are emptied. In some schools, filled garbage cans are refrigerated while awaiting collection to prevent the creation of odors from putrefying organic material. Care must be taken to prevent spillage of garbage as spillage creates a feeding and breeding area for insects and rodents. Flies breed and feed on decaying organic material; rats flourish when fed a regular diet of garbage.

Toilet Facilities

Clean and sanitary toilet rooms, conveniently located, properly lighted and ventilated, and with adequate handwashing facilities, are essential in the teaching and practice of good personal hygiene. If a toilet room is clean, bright, well ventilated and well kept, pupils are likely to maintain these conditions.

The location of toilet rooms is important. They should be convenient and readily accessible from every classroom on every floor so that they may be used at any time with a minimum of interruption to school activities. Good health habits demand that the use of toilets be on a permissive basis and not confined to certain periods. It is recommended that there be separate toilet rooms for each sex on each floor. In newer elementary schools, small toilet rooms adjoin kindergarten and first grade classrooms and are used by both boys and girls, thus simulating home situations. Toilet facilities should be provided in accordance with local plumbing codes and recommendations of state health and education departments. In the absence of such data, the following table may be used as a guide:

RATIO OF TOILET UNITS TO PUPILS

School Level		Closets	Urinals
Elementary	-Girls	1 - 35	
	-Boys	1 - 60	1 - 30
Secondary	-Girls	1 - 45	
	-Boys	1 - 90	1 - 30

The floors and walls of toilet rooms should be a light color and constructed of nonabsorptive materials that can be easily and effectively cleaned. If floor drains are installed in toilet rooms, the floor should be pitched to drain into them.

Equipment in toilet rooms should include shelves, hooks, and mirrors. Shelves are needed to hold books and other articles pupils may be carrying and hooks to hold clothing they may remove. Mirrors, hung at a proper height and placed at convenient locations other than over the lavatories, will be used and appreciated by both boys and girls.

Pupils need to wash their hands after using the toilet as well as before eating. Such personal health practices require that an adequate number of wash basins be provided, one basin to each 60 pupils. They should be installed in all toilet rooms, located between the toilets and the door, and equipped with hot and cold running water and soap dispensers. Sanitary hand drying facilities should be installed, such as paper towels or devices for providing warm air at high velocity. The following table suggests the desirable height of wash basins for pupils of various grades:

HEIGHT OF WASH BASINS

Kindergarten	20"
Grades 1 - 6	25"
Grades 7 - 12	30"

Water closets should be of porcelain or vitreous china with open-front seats. From kindergarten through grade 6 the junior size toilet fixture, which is 13" from the floor to the rim, should be used. From grade 7 up, standard size fixtures should be used. Urinals should be constructed of porcelain or vitreous china. Good maintenance of toilet rooms is essential; they should always be clean, neat, and attractive. Supplies of soap, towels, and toilet tissue should always be adequate.

Toilet rooms should have positive mechanical ventilation direct to the out-of-doors to provide changes of air in accordance with sanitary statutes. The toilet rooms should be adequately lighted at all times. To provide good natural lighting, the glass area should be 10 to 12 percent of the floor area.

Heating

The thermal environment of the school is important to comfort and health. An air temperature ranging from about 68 to 72 degrees Fahrenheit is generally considered optimal for comfort and well-being. Thermal comfort, however, is not dependent solely upon air temperature; radiant heat, humidity, and air movement must be considered. The amount of direct or reflected sunlight that reaches walls and windows of rooms also affects air conditions. Then, too, clothing and customs help to determine comfortable temperatures. Because of these factors it is fallacious to set a standard air temperature for schoolrooms without standardizing other factors affecting thermal comfort.

The interplay of factors that influence an individual's reaction to outdoor air conditions is embodied in the publication and broadcast of figures indicating the "comfort index." These figures reflect both temperature and humidity.

Schoolrooms must be kept at comfortable temperatures at all times of occupancy. Many school buildings are heated by high temperature heating units such as steam radiators and space heaters. These devices have a large radiation factor, and pupils sitting near them will be uncomfortably warm unless radiation shields are used.

An accurate, easily-read thermometer should be installed in every classroom at the level of seated pupils. It should be located away from direct sources of heat and cold. It is good health education to have pupils read the thermometer at intervals and make a record of their readings. Within reason, older pupils, under teacher supervision, should be permitted to adjust the temperature of the classroom to suit their comfort.

The responsibility of providing uniform heat to schoolrooms rests with the custodian or other person tending the stoves or furnaces. The heating equipment of schools should be inspected and checked on a scheduled basis to prevent major breakdowns during the heating season.

Ventilation

Ventilation is the process of supplying air to or removing air from a room by natural or mechanical means and is concerned with both the quantity and quality of air. As has been previously stated, thermal comfort depends on air movement and humidity as well as air and radiant temperatures. Control of the former factors is the primary reason for concern with ventilation, but good ventilation is important also for the removal of body odors and other contaminants.

According to recommendations of the Committee on Atmospheric Comfort of the American Public Health Association,[10] not less than 15 cubic feet of air per minute per person should be supplied to a room where light work is being performed. As the activity is increased, the amount of air per person per minute should be raised to 20 cubic feet. In general, the required rate of air exchange will vary from about 10 to 30 cubic feet per minute per person. Ten cubic feet of air per minute per pupil is recommended as a practical minimum of air intake under normal conditions.

Basically, schools are ventilated (a) by natural means, using window ventilation with or without gravity exhaust, or (b) by mechanical means, using a fan or blower to exhaust the air from the structure. Mechanical ventilation is essential for large toilet rooms, kitchens, and auditoriums. Answers to technical questions on ventilation may be obtained from publications of the American Society of Heating and Ventilating Engineers.[11]

Effective control of humidity is limited to schools having mechanical ventilating systems. Increased humidity is obtained by passing air over pans of water which have a very large surface area, over cloth or fiber strips which are kept wet by capillary action, or through spray chambers. Humidification of air is of great importance during the winter months as relative humidity varies directly with the temperature differential between the heated atmosphere indoors and the unheated air outside. In some cases air may be humidified to a point where condensation takes place on windows and outside walls. This can be prevented by use of double or storm windows and wall insulation.

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[10] American Public Health Association, Committee on Atmospheric Comfort. "Thermal Standards in Industry." *American Journal of Public Health.* Yearbook, Part II, 40: 5. New York: the Association, May 1950. pp. 131-40.

[11] American Society of Heating and Ventilating Engineers. *Heating, Ventilating and Air-Conditioning Guide.* New York: the Society. Published annually.

Humidity may be expressed in terms of relative humidity and can be measured with a wet and dry bulb thermometer or a sling psychrometer. Accepted standards of relative humidity are not available, but it is generally agreed that it should be between 20 and 50 percent. Several investigators have noted that air-borne bacteria die most rapidly when the relative humidity is between 40 and 60 percent. Atmospheres having relative humidities higher or lower than these values are more favorable for the survival of air-borne bacteria.

Air-conditioning is used in some schools, particularly in areas which experience prolonged periods of excessive heat. An air-conditioning system permits dehumidification of air, when this is desirable, as well as positive control over temperature and air movement.

Lighting

The importance of providing properly lighted and illuminated classrooms cannot be overestimated. The problem is complex and in some respects controversial, since standards of lighting are steadily being revised upward. Consideration of lighting in schools involves both artificial light and natural light. The provision and control of light by artificial means is generally called illumination, while the provision and control of natural light is usually referred to as fenestration.

Since natural light is most commonly used, fenestration will be discussed first. The type, size, location, and orientation of windows is determined usually by the architect, and little can be done about these aspects once the school building has been built. Much can be done, however, to utilize and control the natural light that enters the windows.

One method of control is by window shades. The basic principles of shading are: (a) the conversion of direct sunlight and excessive reflected glare from outside sources into diffused or indirect inside lighting and (b) the use of the total glass area of the window without obstruction when conditions are favorable for direct natural lighting. Many types of window shades have been developed, and none has proved to be completely satisfactory for every situation. The type most commonly used is the double roller cloth shade mounted across the middle of the window, one roll pulling down and the other roll pulling up, and held in place with a lock pulley. Installing shades of the proper width and placing a metal bar in back of the space between the rollers prevents streaks

of light from entering the room. The shades should be of a light color and sufficiently translucent to admit diffused light from the direct sun rays. They should be cleaned or replaced when they become soiled and lose their translucent properties. An additional shade of dark material hung from the top of the window may be required to darken the room for motion picture or slide projection. Shades require frequent inspection and maintenance to keep them in operating condition. This is usually the responsibility of the custodian, but the teacher has responsibility for checking the operation of shades and reporting defective conditions to the principal or custodian. The teacher has the added responsibility of making frequent adjustments as the outdoor lighting changes, a responsibility he frequently shares with pupils. Many schools are designed with high window tops to permit adequate natural lighting along the side farthest from the window. This possibility is nullified if the shades are drawn to the top when not necessary. To get maximum use of natural light, shades should not cover the top portion of the window, except when required to exclude direct sunlight or glare.

Venetian blinds properly installed may be effective in controlling natural light, although they have both advantages and disadvantages. They permit the reflection of direct sunlight to the ceiling for diffuse lighting. They also permit air movement through open windows and can be adjusted to exclude almost 100 percent of the natural light for daytime picture projection. Venetian blinds should be installed in such manner that when pulled up they do not obstruct the uppermost portion of the glass area of the window. They are expensive to install and maintain as they must be cleaned frequently to obtain maximum reflectivity. A dirty, dusty venetian blind will not reflect much light to the ceiling. Other disadvantages are the tendency of rope pulls to break and of slats to get stuck when the blind is not handled carefully.

Artificial illumination is a requirement of all schoolrooms to supplement daylight on dull days, to maintain evenly balanced illumination, and to provide lighting for night use. Concern for artificial light includes attention to quality as well as quantity and to the relationships of lighted surfaces to one another. Standards for lighting of schoolrooms are constantly being revised as knowledge concerning light and the reactions of eyes to light increases. The Illuminating Engineering Society[12] and several other organizations have published standards for school lighting. The tendency has been to increase the intensity of illuminated areas and other areas within the visual field. Sight is influenced by brightness differences. The brightness balance and brightness differences of schoolrooms are determined in part by the type of artificial illumination used and the color and finish of interior surfaces.

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[12] American Institute of Architects, Illuminating Engineering Society, and National Council on Schoolhouse Construction. *American Standard Guide for Lighting.* New York: Illuminating Engineering Society, 1962. 40 pp.

Desirable amounts of illumination, as measured in foot candles, vary with tasks to be performed. According to the latest recommendation of the Illuminating Engineering Society, 30 foot candles of light is appropriate for reading printed material, 70 for reading pencil writing, and up to 100 or 150 foot candles for such tasks as drafting, sewing, and lip reading.[13] Brightness ratios should be maintained at fairly low levels, e.g., a ratio of 3 to 1 between the seeing task and the immediately adjacent surfaces and 20 to 1 between sources of light such as windows and lighting fixtures and the surfaces adjacent to them. Glare, which is actually an excessive brightness ratio, must be avoided.

The type and color of paint are important in lighting. To provide soft, diffuse lighting, ceilings should be painted with a flat white paint having a reflection factor of 85 percent, which means that 85 percent of the light striking it is reflected back. Glossy finish paints should not be used. The upper portion of the walls should be finished with a flat paint having a reflection factor of 60 percent. The lower portion can have a factor as low as 40 percent. The floors should have a light finish, one that provides 30 percent reflection. This can be obtained by using the natural color of wood floors. Light maple has proved to be highly satisfactory. The practice of oiling should be discontinued as this darkens floors. Old wood floors that have been oiled can be lightened by scrubbing with strong soap and water and bleached if necessary. The light finish of hardwood floors can be preserved by using a wood filler or clear varnish followed by a nongloss wax. Desks and other classroom furniture should be finished in light colors so as to have a reflection factor of about 40 percent. Desks should not be painted or varnished with a glossy finish. Blackboards have a very low reflection factor, but when used with white chalk a high contrast is obtained. Light-colored chalkboards, on the other hand, have a higher reflection factor, about 15 to 20 percent, and are now used in many schools. They require more illumination because the contrast of the colored crayon and the chalkboard is lower. Where blackboards are used, they should occupy a small portion of the total wall area. In old schools where extensive blackboards cover the walls, light-colored curtains or shades may be installed and kept drawn when the boards are not in use.

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[13] *Ibid.* See Chapters IX and XI.

The lighting fixtures of schoolrooms can be of many types. Some provide direct lighting with a large portion of the light directed downward, some are indirect with the major portion of the light being reflected to the ceiling, and others are a combination. Regardless of the type of lighting used, it is essential that it provide a uniform distribution of shadow-free and glare-free illumination with intensities necessary to maintain desirable brightness balances. Lighting fixtures must be kept clean and burned-out bulbs replaced. This is a duty of the custodian, but cooperation from the teacher in reporting lighting deficiencies is necessary.

Fluorescent lights are now commonly used in school buildings. Although they are more expensive to install, the power cost of fluorescent lights is less than that for incandescent lights.

For reasons of economy, the light fixtures of a classroom should not be connected to a single switch. Multiple switches that control the lighting fixtures in parallel lines to the windows are desirable. This permits use of the inside row of lights without using the row near the windows.

Cafeteria Sanitation

Problems of sanitation in school cafeterias are similar to those of any public eating establishment and relate to equipment, personal practices, and food storage and preparation.[14]

The type of school lunch program will dictate the kind of equipment to be used in preparing and serving food. Basically, provisions must be made for the storage, preparation, and serving of food and for washing and sanitizing the dishes and utensils used.

Storage facilities must be adequate to store all foodstuffs that may be on hand between restocking. A good refrigerator capable of maintaining a temperature of less than 45°F. must be available for the storage of perishable foods. Nonperishable foods should be stored in a clean, dry manner and should be easily accessible to food service personnel. Food should be stored in such manner as to discourage rodent harborage and to prevent its use as food by rodents. The area for preparing the food must be clean, well lighted, well ventilated, and sufficiently large for ease in working. Work tables should be made of materials that are easily cleaned.

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[14] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Health Aspects of the School Lunch Program.* Second edition. Washington, D.C. and Chicago: the Associations, 1962. 30 pp.

Good dishwashing facilities are important in programs of food sanitation. Either mechanical or hand washing facilities can be used provided they meet basic standards. Mechanical dishwashing machines should be of approved types piped with an adequate supply of hot water for washing and with water at a temperature of 180° for the sanitizing rinse. If hand dishwashing is used, a three-compartment sink is preferred; the first compartment for the washing operation, the second for rinsing, and the third for sanitizing. The sanitizing process should be a type approved by local and state authorities. In some areas chemical sanitizing agents are not approved. After washing, utensils should be air-dried, not wiped with towels.

Only pasteurized milk of the highest quality available should be used, and it should be served from the original container or from an approved type of sanitary milk dispenser. It should be fresh and served cool. Only foodstuffs that are known to be pure and wholesome should be served. All food should be prepared on the premises, not in private homes. It should be consumed promptly, and leftovers should not be kept except where there is good refrigeration.

A vital factor in food sanitation is the training of personnel in the sanitary preparation and serving of food. A publication by the United States Public Health Service[15] presents a standardized training program for food service personnel. This program is adaptable to cafeteria workers in schools. Sanitary food service is dependent to a high degree upon the human element—the customs and work habits of people preparing and serving food. High standards of personal health practices must be required of all food handlers, including children who are used as cafeteria helpers.

An excellent reference on problems in food sanitation is published by the United States Public Health Service.[16] This lists various requirements, states reasons for them, and describes standards for satisfactory compliance with them. Local and state health authorities can be helpful in giving advice on problems of food sanitation and food service.

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[15] U.S. Office of Education, Federal Security Agency, Public Health Service. *Instructor's Guide—Sanitary Food Service.* Washington, D.C.: Government Printing Office, 1952. 209 pp.

[16] U.S. Department of Health, Education, and Welfare, Public Health Service. *Food-Service Sanitation Manual.* Public Health Service Publication No. 934. Washington, D.C.: Government Printing Office, 1962. 90 pp.

Swimming Pools

Schools with swimming pools have an additional sanitation responsibility. Swimming pools should be operated according to standards set by the state health department or recommended by the American Public Health Association.[17] Of greatest importance is the maintenance of free residual chlorine at a level of at least 0.4 parts per million at all times, and a hydrogen ion concentration between 7.2 and 8.2. Expert advice on swimming pool operation is available from every state health department. Some states run special short courses for swimming pool operators.

The water temperature of indoor pools should not be higher than 78°F. For comfort of swimmers air temperature should be about five degrees warmer than water temperature. The air should be humidified if it has less than 30 percent relative humidity, as rapid evaporation of water from the body of the bather as he leaves the pool may cause undue cooling. On the other hand, excessive humidity must be avoided as it causes condensation on the cold surfaces of walls and ceiling. Air movement in swimming pool rooms should be kept at a low rate.

The use of footbaths for swimmers is not recommended. They often are used as inadequate substitutes for pool and locker room sanitation. They should be eliminated and individuals helped to develop desirable practices in caring for their feet.[18] They should be taught to dry their feet thoroughly after bathing or swimming, using a foot powder if necessary.*

Every person using a swimming pool should follow recommended health practices. A shower in the nude, with hot water and soap, should be taken before entering the pool. Girls should use bathing caps, and the use of their own suits should be prohibited. Swimming suits should be provided and washed and sterilized after use.[19]

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[17] American Public Health Association. *Recommended Practice for Design, Equipment and Operation of Swimming Pools and Other Public Bathing Places.* 10th edition. New York: the Association, 1957. 60 pp.

[18] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Answers to Health Questions in Physical Education.* Washington, D.C. and Chicago: the Associations, 1959. 22 pp.

* See section on Epidermophytosis in this book, Chapter 13, "Health Services in Physical Education and Athletics."

[19] For additional information on sanitation problems relating to physical education, see NEA-AMA Joint Committee publication *Healthful School Living,* Chapter 12, "The Environment for Physical Education."

HOUSEKEEPING PROCEDURES

Adequate sanitary facilities are essential but good housekeeping is equally important. The school building that is clean, neat, and attractive helps pupils develop concepts of good housekeeping standards.[20]

The Custodian and the Teacher

To the custodian is delegated responsibility for maintaining a school building in a state of cleanliness, orderliness, and good repair, but he cannot do the job alone. He must have the cooperation and understanding of the teacher, the pupils, and the school board. The teacher must inform the custodian of environmental needs of pupils. The pupils must assist in keeping the school building and grounds reasonably clean. It is asking quite a bit of a custodian to clean up the litter of untidy teachers and pupils. Effective teachers will use the need for pupils to help keep the building and grounds neat and tidy as an opportunity for constructive health education, stressing the value of cleanliness, safety, and orderliness in the lives of pupils. Every teacher must understand the custodian's problems and what he is trying to do, just as the latter must understand the teacher's position and his problem.

School Board Responsibilities

The school board must provide the necessary tools, equipment, and supplies needed by the custodian. It is also responsible for providing assistants to accomplish required housekeeping chores. The school board should develop an understanding of the problems of cleaning and maintaining the school structure. In order to have the job done properly the school board should employ custodians who are sufficiently skilled to perform the many technical tasks required in operating and maintaining a modern school plant. In parts of the country training courses are conducted to provide custodians with the knowledge needed and to train them to do a better and more effective job.

An efficient custodian plans and organizes his work. Certain jobs must be done daily, others weekly, and some at less frequent intervals. The checking of automatic and operating equipment must be scheduled. Frequently a check list is helpful in planning work and following it up to ensure completion. To assist the custodian in his work, publications on maintaining equipment often may be obtained from manufacturers. A helpful reference on school housekeeping procedures is *The School Custodian's Housekeeping Handbook.*[21]

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[20] *Ibid.* See Chapter 6, "School Housekeeping."

Teamwork Brings Results

The maintenance of a sanitary school environment is the joint responsibility of many individuals acting and working in cooperation with one another. The teacher must understand the principles of school sanitation and assume his responsibilities in providing a healthful environment. Pupils should acquire a knowledge of sanitary practices and help to maintain conditions that exemplify the highest standards. The school board must appreciate the importance of sanitary water supply and waste disposal, effective lighting and ventilation, heating, the value of a clean cafeteria, and all other factors that comprise school sanitation. Health departments, both local and state, have skilled personnel that can provide information and assistance in attaining and maintaining high levels of school sanitation.

FOR FURTHER READING

AMERICAN INSTITUTE OF ARCHITECTS, ILLUMINATING ENGINEERING SOCIETY, AND NATIONAL COUNCIL ON SCHOOLHOUSE CONSTRUCTION. *American Standard Guide for Lighting.* New York: Illuminating Engineering Society, 1962. 40 pp.

AMERICAN PUBLIC HEALTH ASSOCIATION. *Recommended Practice for Design, Equipment and Operation of Swimming Pools and Other Public Bathing Places.* 10th edition. New York: the Association, 1957. 60 pp.

____________________. *Recommended Ordinance and Regulations Covering Public Swimming Pools.* New York: the Association, 1963.

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS. *Heating, Ventilating and Air-Conditioning Guide.* New York: the Society. Published annually.

EDUCATIONAL FACILITIES LABORATORIES. *New Schools for New Education.* New York: the Laboratories (477 Madison Avenue), 1959. 53 pp.

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[21] Linn, Henry H., and others. *The School Custodian's Housekeeping Handbook.* New York: Bureau of Publications, Teachers College, Columbia University, 1948. 255 pp.

MACCONNELL, JAMES D., AND O'DELL, WILLIAM R. *Plumbing Fixtures for Educational Facilities.* Stanford, Calif.: School Planning Laboratory, School of Education, Stanford University, 1959. 43 pp.

MCQUADE, WALTER, editor. *Schoolhouse.* New York: Simon and Shuster, 1958. 271 pp.

NATIONAL COUNCIL ON SCHOOLHOUSE CONSTRUCTION. *Guide for Planning School Plants.* 1958 edition. East Lansing, Mich.: the Council (Floyd G. Parker, Michigan State University), 1958. 254 pp.

NATIONAL EDUCATION ASSOCIATION AND AMERICAN MEDICAL ASSOCIATION, JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION. *Healthful School Living.* Washington, D.C. and Chicago: the Associations, 1957. 323 pp.

————————————————. *Answers to Health Questions in Physical Education.* Washington, D.C. and Chicago: the Associations, 1959. 22 pp.

————————————————. *Health Aspects of the School Lunch Program.* Second edition. Washington, D.C. and Chicago: the Associations, 1962. 30 pp.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, PUBLIC HEALTH SERVICE. *Environmental Engineering for the School—A Manual of Recommended Practice.* Public Health Service Publication No. 856. Washington, D.C.: Government Printing Office, 1961. 74 pp.

Chapter **13**

Health Services in Physical Education and Athletics

Physical education, an integral part of the modern school curriculum, makes use of a wide variety of activities. At different age levels physical education includes some or all of the following: informal play; tests of physical strength, skill, or endurance; rhythmic activities; swimming; organized games; body-building exercises; self-testing activities; athletic contests; and various forms of physical recreation activities. Participation in these activities involves the total individual, not just his muscles and bones. Teachers of physical education are concerned not only with pupils' physical development but also with their mental, emotional, and social development.

Physical education serves numerous purposes. Participation in physical activities contributes to pupils' personal health, to their feelings of well-being, and to their emotional stability. In physical education programs pupils learn how to react to other children and youth. Moreover, they learn recreational skills which they can use out of school and throughout the rest of their lives.

From an organizational viewpoint there are three parts of a school physical education program. The first part is basic class instruction in physical skills. This basic program is supplemented by intramural athletic activities, which constitute the second part. A third part, interscholastic athletic competition, is provided primarily for secondary school boys. The term *physical education* applies to activities in all these parts of the program and regardless of whether they are carried on in a gymnasium, swimming pool, playground, or athletic field.

If the potential values of participation in vigorous activity are to be realized and detrimental effects are to be avoided, attention must be given to health. The results of health appraisal need to be used in classifying pupils for physical education and in checking their fitness for strenuous competition. Precautions need to be taken to minimize accident hazards and to care for those who

erican Association for Health,
ysical Education, and Recreation

become injured. Numerous other health factors need attention, a number of which will be discussed later.

All health services described in previous chapters have application to physical education and recreational activities. Certain services, however, because of their unusual pertinence to the physical education program, will be elaborated upon further here.

CLASSIFICATION FOR PHYSICAL EDUCATION

Classification of pupils for physical education requires that attention be given to age, weight, sex, degree of maturity, interests, strength, skills, and health condition. It requires cooperative action by the physician and physical education personnel; neither can do the job alone. The results of medical examinations are important factors in classifying pupils for physical education but they need to be supplemented by observation of pupils' appearance and behavior as they engage in physical activity. The health of those who engage in interschool sports needs to be checked as carefully as the health of those who have recently suffered a sickness or injury. Closely related is the problem of medical requests that pupils be excused from physical education.

Medical Examinations Aid Classification

Before a pupil is permitted to participate in a vigorous activity program, sufficient information should be obtained about his health to assure his proper placement. Such information may be obtained from a review of the pupil's health history including the results of previous medical examinations and other appraisal procedures as recorded on his cumulative health card. In some cases a special medical examination may be required. For physical education classes and intramural programs the former procedure is customary; for those engaging in strenuous interscholastic sports, preseason medical examinations are recommended.

If the physician is to function effectively in helping to classify pupils for physical education, he needs to understand the purposes, goals, and procedures of the physical education program. Furthermore, good channels of communication between physicians and physical education personnel must be established and used. As stated at a recent conference:

> All physicians should be informed as to just what is included in local physical education activities, from the full program to varying degrees of individual remedial services that may be available. . . . This communication with physicians can be carried out on an individual basis, with the physical

> educator gradually establishing contacts with physicians through situations involving excuses for particular children. It can also be developed at medical society meetings during which the entire situation can be explored with appropriate school personnel.[1]

The physical education teacher, the coach, and the recreation leader need to supplement the results of medical examinations with observations of the appearance and behavior of pupils under their supervision. The opportunity to observe pupils informally in locker and shower rooms—in their abbreviated gymnasium costumes—allows the physical education teacher to spot deviations from normal that are not apparent to the classroom teacher. Pupils' reactions to physical activity will also be observed. A pupil may appear normal in the classroom but fatigue easily on the playground. He may get along well in classroom situations but find difficulty adjusting to other pupils in the gymnasium or on the playing field. He may become breathless following slight exertion or his movements may be less coordinated than usual. These conditions are important and should be dealt with in the same manner as those noted by the classroom teacher. (See the section heading "Teachers' Observations" in Chapter 3, "Appraising Pupil Health.") The physical education teacher or coach should make certain that those who do not appear well are referred to appropriate persons in accord with established health service policies.

Medical examinations and teacher observations of pupils' appearance and behavior help in the classification of pupils, a necessary step in adapting physical education to their needs, interests, and capacities. Proper classification makes it possible to provide physical education for all pupils, even the physically handicapped.[2]

Medical Excuses from Physical Education

The problem of medical excuses from physical education exists in many parts of the country and involves both boys and girls in elementary and secondary schools. Pawsat describes the problem in these words:

> During the early school years, the request for pupils to be excused from physical education classes is usually made by the parent. This parent frequently misinterprets the seriousness of a minor disability or feels that a transient complaint in his child should warrant exclusion from physical

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[1] American Medical Association. *Report of the Seventh National Conference on Physicians and Schools.* Chicago: the Association, 1959. p. 97.

[2] Hein, Fred V. "Health Classification *vs.* Medical Excuses from Physical Education." *Journal of School Health* XXXII: 14-17; January 1962.

education. Also, excuses may be requested by oversolicitous parents on the basis of supposed ills resulting from participation in the program, such as the danger of injury, digestive upsets, headaches, and colds relating to showers.

Later in the school years, the pupil himself may seek to be excused from the prescribed course in physical education. Again, in most instances, a health condition is given as the reason for the desired excuse. Any of a multitude of minor or imagined ailments and disabilities may be offered by the individual seeking this exclusion from participation. Needless to say, the majority of these excuses are not justified in the opinion of the school staff, but, very often, the school authorities are not in a position to pass finally on the validity of a given request. At this point, medical review and opinion are called upon to identify the unwarranted excuse or to recognize, in the individual under consideration, the need for some type of modified physical education program.[3]

A positive approach to the classification of pupils for physical education and to solving the problem of medical requests for excuses is to have physicians categorize pupils according to the amount of activity in which they can engage. Such categories as the following may be used:

A—Unlimited activity
B—Slightly modified program
C—Restricted program
D—Individual activity as prescribed by a physician
E—Rest in place of activity

Use of this procedure permits programs to be adapted to the needs of each particular pupil. A large percentage of pupils will take the regular program, but those who are unable to do this will have one which meets their needs.

Temporary excuses from physical education are necessary for a variety of reasons ranging from convalescence from a severe cold or operation to a fractured finger or sprained ankle. These excuses are usually arranged by the teacher. The teacher's decision to excuse or not to excuse should be based on what is best for the particular pupil rather than on rigid rules. The decision should reflect a realization that one who does not feel well often does not enjoy physical activity and that sometimes rest can be more helpful than exercise.

The occurrence of menstruation does not necessarily exclude a girl from physical activities. Although reasonable caution should be observed during the early part of a period, since strenuous activity may increase the menstrual flow, many girls continue

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[3] Pawsat, E. H. "Classification of Pupils for Physical Education." *Report of the Seventh National Conference on Physicians and Schools.* Chicago: American Medical Association, 1959. p. 84.

nt Community Schools, Flint, Michigan

normal activity with no ill effects or discomfort. Activity, by stimulating circulation, may have a positive effect in relieving dysmenorrhea. Any increase in musculature of the pelvic floor resulting from exercise has no undesirable influence on the process of childbirth. Warm baths or showers may be taken during the period and even swimming in moderation is not contraindicated. In the last analysis, the decision as to the extent of participation in physical activity during the menstrual period should be determined by a physician on an individual basis.

When groundless requests for excuse from physical education are numerous, an attempt should be made to determine the reasons for them. Some pupils are overly sensitive about undressing in front of others, especially if they differ greatly from others in physical appearance. Girls may feel that taking a shower will adversely affect their hair arrangements. Sometimes it is necessary to review the entire physical education program since a high correlation exists between the number of requests for excuses and such factors as poor programs, inferior teaching, insufficient time, and inadequate facilities. Ordinarily, pupils do not present unreasonable requests for excuse from programs that are suitable and satisfying.

Classification of pupils for physical education should be flexible, subject to review when change occurs in a pupil's condition, as when he has suffered an injury, severe respiratory infection, or other sickness. Following a severe injury or sickness a pupil should be seen by a physician before resuming activity either in a physical education class program or in intraschool or interschool athletics.

Medical Examinations for Athletes

Pupils who participate in strenuous athletics should have annual medical examinations, preferably performed by their own physicians. Such examinations should be supplemented by keen observations on the part of the coach or teacher as the players engage in practice or in contests. If the player does not appear well and behave normally, he should be referred for medical examination. The same procedure should be used for those returning to activity following sickness or injury.

Some coaches and physical education teachers have suggested that high school pupils who engage in several different sports should be medically examined at the beginning of each sports season. This does not seem necessary if they have not been ill or injured during the previous season. However, all players should be carefully observed by the coach and promptly referred for medical attention at the first sign of any unusual condition.

PREVENTION OF INJURIES

A large proportion of school accidents occurs while pupils participate in physical activities in the gymnasium or on the playing field. Such accidents can be reduced through proper supervision and instruction and through use of appropriate protective equipment. Precautions against injuries are necessary in physical education classes and also in intramural and interschool athletics.

Teacher Responsibilities

The importance of the physical education teacher or coach in protecting pupils from injuries cannot be overemphasized. It is he who must see that each pupil is in condition for the activities he undertakes and that each participant receives preliminary instruction in the basic techniques of the sport in which he engages. Technical instruction leading to skillful performance is a significant factor in lowering the incidence and severity of injuries. This instruction should promote good sportsmanship in all activities and discourage tactics that increase accident hazards.

The teacher or coach will give thoughtful consideration to the scheduling of games and contests and to the preparation of pupils for them. Injuries are more apt to occur if games are played before pupils have had an opportunity to get into good physical condition, if practice sessions are so long that pupils become overfatigued, and if pupils are not given an opportunity to "warm up" before engaging in vigorous activity.

The teacher or coach should insist that qualified officials competent in dealing with children and youth are used in both intramural and interschool athletic contests. Good officiating helps to protect players from injuries.

Injuries sometimes occur because of hazards in the gymnasium or on the playground. The teacher or coach should check playing areas to identify such hazards as irregular surfaces or protruding objects, and then take steps to have the hazards eliminated. Pupils should have safe places to play.

Protective Equipment

In many physical education activities the use of protective equipment should be mandatory. In baseball, the catcher should be required to use a mask and chest protector. In football, helmets, face masks, mouth guards, and shoulder, hip, and knee pads, along with other standard gear, should be required.

Protective equipment is of limited value unless it is in good condition and properly fitted and used. The teacher or coach should see that protective equipment fits players and should instruct them in the use and adjustment of it so as to obtain the greatest possible protection.

Safeguards in Physical Education

Supervision of pupils engaged in physical activities requires that the teacher give attention to their physical condition, to the types of activities in which they take part, to the equipment they use, and to numerous other matters. A check list of the major factors in the supervision of high school athletics was prepared by the Committee on the Medical Aspects of Sports of the American Medical Association and the National Federation of State High School Athletic Associations. The items in this check list, as reproduced below, are applicable to all aspects of physical education and many of them to programs in both elementary and secondary schools.

Proper conditioning helps to prevent injuries by hardening the body and increasing resistance to fatigue.

1. Are prospective players given directions and activities for pre-season conditioning?
2. Is there a minimum of three weeks' practice before the first game or contest?
3. Is each player required to warm up thoroughly prior to participation?
4. Are substitutions made without hesitation when players evidence disability?

Careful coaching leads to skilled performance, which lowers the incidence of injuries.

1. Is emphasis given to safety in teaching techniques and elements of play?
2. Are injuries carefully analyzed to determine causes and to suggest preventive programs?
3. Are tactics discouraged that may increase the hazards and thus the incidence of injuries?
4. Are practice periods carefully planned and of reasonable duration?

Good officiating promotes enjoyment of the game as well as the protection of players.

1. Are players as well as coaches thoroughly schooled in the rules of the game?
2. Are rules and regulations strictly enforced in practice periods as well as in games?

3. Are officials employed who are qualified both emotionally and technically for their responsibility?

Right equipment and facilities serve a unique purpose in protection of players.

1. Is the best protective equipment provided for contact sports?
2. Is careful attention given to proper fitting and adjustment of equipment?
3. Is equipment properly maintained, and worn and outmoded items discarded?
4. Are proper areas for play provided and carefully maintained?

Adequate medical care is a necessity in the prevention and control of athletic injuries.

1. Is there a thorough pre-season health history and medical examination?
2. Is a physician present at contests and readily available during practice sessions?
3. Does the physician make the decision as to whether an athlete should return to play following injury during games?
4. Is authority from a physician required before an athlete can return to practice after being out of play because of disabling injury?
5. Is the care given athletes by coach or trainer limited to first aid and medically prescribed services?[1]

Answers to questions in the above check list give evidence to the extent to which the health and safety of those engaging in physical education are being protected. If all questions can be answered affirmatively, safeguards are adequate. Any negative answer reveals a need for improvement.

Programs for Prepubescent Boys

Efforts to prevent injuries in physical education should give particular attention to prepubescent boys. Although the age of pubescence varies in individuals, those 13 years of age and under may ordinarily be classified as prepubescent. Their growth is rapid; there may be disparity between the growth of bones and the growth of muscles; they are particularly susceptible to social pressures; they do not have the physical skills of their older brothers; and they frequently are not aware of their physical limitations. Because of these characteristics, many believe that participation of boys in body-contact sports should be delayed until they are well past puberty. The physician should be consulted regarding the maturity level of individual participants.

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[1] American Medical Association, Committee on the Medical Aspects of Sports, and the National Federation of State High School Athletic Associations. *Safeguarding the Health of the High School Athlete.* Chicago: American Medical Association, 1961. pp. 1-4.

The needs of prepubescent boys can best be met by programs of physical education in which they are helped to learn the basic skills of many games and sports and in which they have numerous opportunities for competition with those of comparable size, maturity, and skill. Such programs should be available to all boys, not just a few.

Opinions differ regarding the desirability of interschool competition for prepubescent boys. Where such competition is provided, medical supervision should supplement that of teachers and leaders (coaches). The activities should serve educational purposes and should be conducted with the welfare of the players as the basic consideration and with no direct or indirect disruption of the school academic program. The Committee on the Medical Aspects of Sports of the American Medical Association has issued a statement on athletic competition for junior high school youths that has general application to body-contact sports.[5]

CARING FOR INJURIES

Procedures for the care of injuries occurring in physical education activities should be formulated for each school or school system and be included in published policies relating to school health services. The principles and procedures involved are no different from those used in other emergencies, although the teacher or coach may have increased responsibility because injuries may occur during after-school hours or when pupils are away from the school building. The incidence of injuries is particularly high in body-contact sports.

Responsibilities of the Teacher or Coach

When a pupil becomes injured during a physical education class or while taking part in an athletic contest, either intramural or interschool, the teacher or coach should administer first aid. Every teacher and coach should be prepared to render such service and should be familiar with school policies relating to emergency care. Moreover, they should keep up to date on first aid procedures.

If the accident is serious, it is the instructor's or coach's responsibility to see that the injured person is placed under the care of a physician as soon as possible following administration of first aid.

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[5] American Medical Association, Committee on the Medical Aspects of Sports. *Tackle Football in Junior High School.* Chicago: the Association, 1959. 3 pp. (Mimeo.)

If a physician or nurse is present when an accident occurs, this person should take charge; but otherwise any qualified member of the school staff may administer first aid.

As stated in a previous chapter (Chapter 11, "Caring for Emergency Sickness or Injury"), each pupil's health record should contain the name of his family physician, hospital preference, and the home and place-of-work telephone numbers of both parents or of a relative who may be called in case of a serious accident. It is also desirable to have on file for each pupil a statement signed by a parent giving permission for prudent action by school personnel in cases of extreme emergency. This information should be readily accessible regardless of the time of day or the place where an accident occurs.

Although local policies and procedures may vary in details, the following suggestions represent basic measures to assure proper care for injured pupils:

1. Administer first aid.
2. Advise the parents or guardian about the pupil's accident. Inform them of the care he needs and find out whether they will come to him or prefer that he be taken home, to a physician's office, or to a hospital.
3. If the parents cannot be reached, communicate with the pupil's family physician and obtain his advice.
4. If neither a parent nor the family physician can be reached, summon a physician or arrange for the injured pupil to be taken to a hospital or to a physician's office for emergency care.

When the injured pupil has been placed under proper medical care, one major responsibility has been discharged. There remains the moral obligation to maintain interest in the child or youth through communications with the parents. Such a procedure promotes good public relations and also provides a means of assuring that the injured pupil receives the care he needs.

Obviously, all individuals in charge of strenuous physical activities as well as other school personnel should have a thorough knowledge of the liability laws of their state. These vary, although usually there is no liability except in cases of negligence. Reasonable and prudent action normally is the criterion for determining whether negligence occurred. Many teachers find it desirable to obtain liability insurance to protect them from financial loss due to negligence.

Teachers and coaches should be familiar with local rules, regulations, or policies regarding the payment of physician's bills and hospital charges. In most cases, the school's legal responsibility ceases when first aid has been administered and the pupil placed in the hands of a parent. It is the responsibility of the parent to pay for medical care. The question of parent responsibility should be covered in school policy statements and should be interpreted to parents.

Teachers and coaches should also be familiar with accident insurance policies which may help to reimburse parents for at least part of the cost of medical care required by an injured child or youth. Teachers should know what reports of accidents should be submitted and who should contact the insurance representative.

The Physician at Athletic Conte[illegible]

It is becoming common practice to have a physician present at athletic contests in which the possibility of injury is great, such as in football. When a physician is not present, and during practice sessions, the teacher or coach should know how to summon a physician if one is needed.

The physician's function is to protect the health of pupils. He checks the condition of those who are injured; his decision that an injured pupil should not return to a game should not be questioned by player, coach, or teacher. He administers first aid in cases of severe injuries and suggests to parents what further treatment is needed. He checks players' immunization status, making sure that each one has been protected against tetanus.

The physician who serves as medical advisor to an athletic team will not ordinarily provide treatment, other than immediate first aid, for players who become sick or injured. Care, other than first aid, should be obtained from a pupil's own physician.

A booklet prepared by the National Federation of State Athletic Associations in cooperation with the American Medical Association points out the role of the physician in instructing teachers and coaches regarding the transportation of injured pupils. It states:

> One of the responsibilities of the attending doctor is to supervise the moving of an injured player when this is necessary. However, serious injuries may occur in practice and sometimes in sports where injury is not generally anticipated. At such times it may be necessary to move the injured player, but it is usually best to do so only on a doctor's instructions.
>
> Student managers, as well as coaches and other faculty members connected with sports, should be well grounded in correct first-aid procedures, including proper methods of transportation.
>
> Don't be hurried into moving an athlete who has been hurt; few injuries require breakneck speed. Particularly when there is any suspicion of a

neck or back injury, the game and crowd can wait. Remember the first-aid admonition: *Improper or careless methods frequently increase the severity of an injury and may even cause death.*

In body-contact sports an inconspicuously placed stretcher is a practical necessity. Having an established procedure to obtain needed ambulance service is equally important.

Written step-by-step directions to follow when an injured athlete must be moved are a protection to the school as well as the players themselves.[6]

Teachers and physicians working together can devise procedures for preventing injuries in physical education and athletics and likewise can develop appropriate measures for providing care for the few unfortunate ones who become injured.

Physical Therapy for Athletes

Physical education teachers and coaches recognize that they are not qualified to diagnose disorders or injuries nor to prescribe or administer treatment. Attempts to diagnose or treat may make them liable to suits claiming that they are practicing medicine without a license to do so.

If a coach feels that members of his team need physical therapy he should see that such treatment is provided by a registered physical therapist working under the direction of a licensed physician. In this manner the player will get the best possible treatment and the coach and school will be protected against legal entanglements.

SPECIAL HEALTH PROBLEMS

In the conduct of physical education and athletic programs numerous problems arise, or at least questions arise, that relate to health matters. Pupils often wonder if those who participate in athletics need a special diet, and newspaper articles raise questions about the use of drugs in athletics. Teachers and coaches inquire about practices relating to the use of clothing and towels and ways of helping pupils avoid fungous infections of the feet. Another problem relates to pupil participation in athletics that are organized under nonschool auspices.

Diets and Drugs

A good diet is needed by all children and youth, one that will provide adequate amounts of protein, carbohydrate, fat, minerals, and vitamins. Boys and girls can be helped to select a good diet by considering four different groups of food and the minimum number of servings of each that they need daily. The groups are:

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[6] National Federation of State Athletic Associations in cooperation with the American Medical Association. *Tips on Athletic Training I.* Chicago: American Medical Association, 1961. p. 9.

Group A—Bread and cereals; four or more servings of enriched or restored bread or cereal.

Group B—Milk and milk products; four or more glasses of milk. Part of this requirement may be met by substituting cheese or ice cream for milk.

Group C—Meat group; two or more servings of meat, fish, poultry, or eggs.

Group D—Fruit and vegetable group; four or more servings daily, including one citrus fruit.

Children and youth engaging in vigorous sports develop good appetites and need ample amounts of food. There is no evidence, however, that they need any special diet or should eat unusual amounts of any particular food. Furthermore, a boy or girl eating an adequate diet will get all the vitamins he needs. Vitamin tablets are unnecessary except as prescribed by a physician because of a diagnosed vitamin deficiency.

Although newspapers have at times carried stories about the use of amphetamine or other drugs to improve physical performance, the use of such substances is unwarranted and unethical.

The report of a committee which surveyed opinions and conducted studies relating to the use of amphetamines by athletes includes the following statements:

> The present use of amphetamines as an aid to improving athletic performance is apparently very small and has involved only a very few athletes. The attitude of athletes both amateur and professional as well as coaches, trainers and others connected with sports activities has been for the most part to condemn such usage.
>
> Since the regular use of such drugs may well lead, on the basis of well-recognized evidence from other studies of amphetamine usage, to habituation and to indiscriminate use thereby exposing the user to known effects of acute and chronic toxicity, it is inadvisable on these grounds alone to employ it for the purpose of improving athletic performance.
>
> * * * *
>
> Therefore, in view of the fact that the use of amphetamines to improve athletic performance is inconsistent with the practice and ideals of sportsmanship and since their repeated use may be associated with harmful effects, the Committee strongly condemns the prescription of these drugs for this purpose by physicians or their administration or use in athletics by coaches, trainers, or participants.[7]

Sanitary Practices in Physical Education and Athletics

Failure to follow sanitary practices may result in the spread of infections among pupils in a physical education class or players on an athletic team. Infections may be spread by the use of common towels, combs, and drinking cups; wearing another person's socks, supporter, or other clothing; or use of unclean mats or other equipment.

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[7] American Medical Association. *Report of the Committee on Amphetamines and Athletes.* Chicago: the Association, 1959. (Mimeo.)

By insisting that pupils develop good sanitary practices, teachers and coaches protect the health of children and youth. Insistence on desirable practices should be supplemented by explanations of the reasons for them. For example, all pupils, including members of athletic teams, should have individual towels. They should drink water from a sanitary drinking fountain or use disposable paper cups.

The use of desirable sanitary practices by a representative athletic team may influence many people in the community. As stated in one report:

> What could be better health education than for the rest of the students to witness members of a team using their own marked towels during time-outs, or wearing only scrupulously clean socks and other personal equipment, or using individual paper drinking cups during rest periods when a drinking fountain is not available. Think, too, of the influence athletes might have through example by remaining out of school when ill, by receiving proper first aid for injuries, and by seeking medical attention promptly, when it is needed.[8]

Showers Following Vigorous Activity

Bathing following vigorous physical activity is a practice that should be encouraged. Children and youth should learn that vigorous activity produces increased amounts of perspiration which, if not removed by bathing, cause unpleasant body odors. Moreover, in activities like tumbling, wrestling, and baseball, the body becomes covered with dust and dirt, which sometimes harbor bacteria that are capable of producing skin infections.

Judgment is needed when encouraging showers in connection with school physical education. Showers may be required if the activity is sufficient in intensity or duration to produce copious perspiration and if adequate facilities are available. On the other hand, if the activity is mild, pupils may be permitted a choice in the matter. If showers are taken, pupils should be allowed sufficient time to enjoy them and to dress afterward. The body should be thoroughly dried and care should be taken to wear clothing appropriate to the weather. Finally, boys and girls should be advised to avoid sudden abrupt changes in temperature, such as going outdoors in cold weather immediately after warm showers in a warm room.

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[8] National Federation of State Athletic Associations in cooperation with the American Medical Association. *Tips on Athletic Training, III.* Chicago: American Medical Association, 1961. p. 11.

Epidermophytosis

Teachers of physical education and coaches of athletics frequently observe pupils with a fungous infection of the feet known as epidermophytosis and sometimes referred to as "athlete's foot." This condition, occurring as frequently in nonathletes as in athletes, is a result of poor personal hygiene in susceptible individuals, particularly failure to dry the feet thoroughly after bathing.

For many years preventive measures were based on the assumption that this fungous disease resulted from walking on surfaces contaminated with fungi. Attempts to produce the disease, however, by deliberately exposing the feet of volunteers to a solution containing fungi were unsuccessful. On the basis of such research and related clinical experience it is believed that the condition of an individual's skin is the most important factor in determining whether he will develop fungous disease following exposure.

Pupils with fungous infections should be referred to a physician for treatment.

The most important preventive procedure is education of pupils regarding personal practices. They should be advised to—

1. Wash their feet carefully and thoroughly with soap and water at regular intervals, giving particular attention to the areas between the toes.
2. Dry the feet carefully and thoroughly, again with special attention to the toes and areas between the toes.
3. Dust the feet with a drying powder, such as talcum.
4. Change socks frequently, particularly during warm weather.
5. Obtain prompt medical attention when signs of infection occur.

Action based on these suggestions will help to keep the skin in good condition.

Respiratory Infections

Misconceptions concerning colds and the effects of exercise on one who has a cold are gradually being corrected. At one time many persons thought that resistance to colds and other infectious diseases could be increased by exercise. Exercise increases strength and endurance but produces no immunity to infectious disease.

Another misconception is that strenuous exercise enables one to "work off" a cold. Colds are self-limited infections usually lasting between 5 and 10 days. During this period the infection places an additional burden on the body and its resources. Increased rest is more desirable than increased activity. There is no justification for the claim that exercise will reduce the effects of a cold.

Pupils should be encouraged to stay at home during the active period of a cold. They will be better off for doing so and will decrease the possibility of spreading their cold to others. After they return, they may need a modified physical education program until they have regained their usual strength and vigor.

Similar procedures should be followed in supervising the players on an athletic team. They should be helped to realize that when a player with a cold associates with his teammates he endangers the health of the entire team. He should stay at home until recovered. Then he should resume vigorous activity gradually.

Athletics Under Nonschool Auspices

School personnel responsible for physical education and athletic programs should recognize that many pupils participate in athletic programs under nonschool auspices. Such programs include those organized by churches, youth organizations, "pee wee" leagues, and other groups. Knowledge of these activities allows school personnel to provide activities for those who do not participate in the activities of out-of-school groups and to prevent some pupils from participating in too many activities.

In some instances out-of-school groups may not give appropriate consideration to health and safety factors. The school's interest and concern with this problem should be made known and appropriate guidance offered to community groups.

Physical education and recreation programs under the auspices of schools and other community groups have tremendous potential for promoting the health, strength, and happiness of children and youth. Realization of these goals is facilitated when proper attention is given to health and safety.

FOR FURTHER READING

AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION. *Interscholastic Athletics for Junior High School Boys.* Report of the Junior High School Athletics Subcommittee. Washington, D. C.: the Association, a department of the National Education Association, 1962. 47 pp.

AMERICAN MEDICAL ASSOCIATION, COMMITTEE ON THE MEDICAL ASPECTS OF SPORTS. *Tackle Football in Junior High School.* Chicago: the Association, 1959. 3 pp.

AMERICAN MEDICAL ASSOCIATION, COMMITTEE ON THE MEDICAL ASPECTS OF SPORTS, AND THE NATIONAL FEDERATION OF STATE HIGH SCHOOL ATHLETIC ASSOCIATIONS. *Safeguarding the Health of the High School Athlete.* Chicago: American Medical Association, 1961. 4 pp.

HEIN, FRED V. "Educational Aspects of Sports for Children." *Journal of the American Medical Association* 168: 1434-38; November 15, 1958.

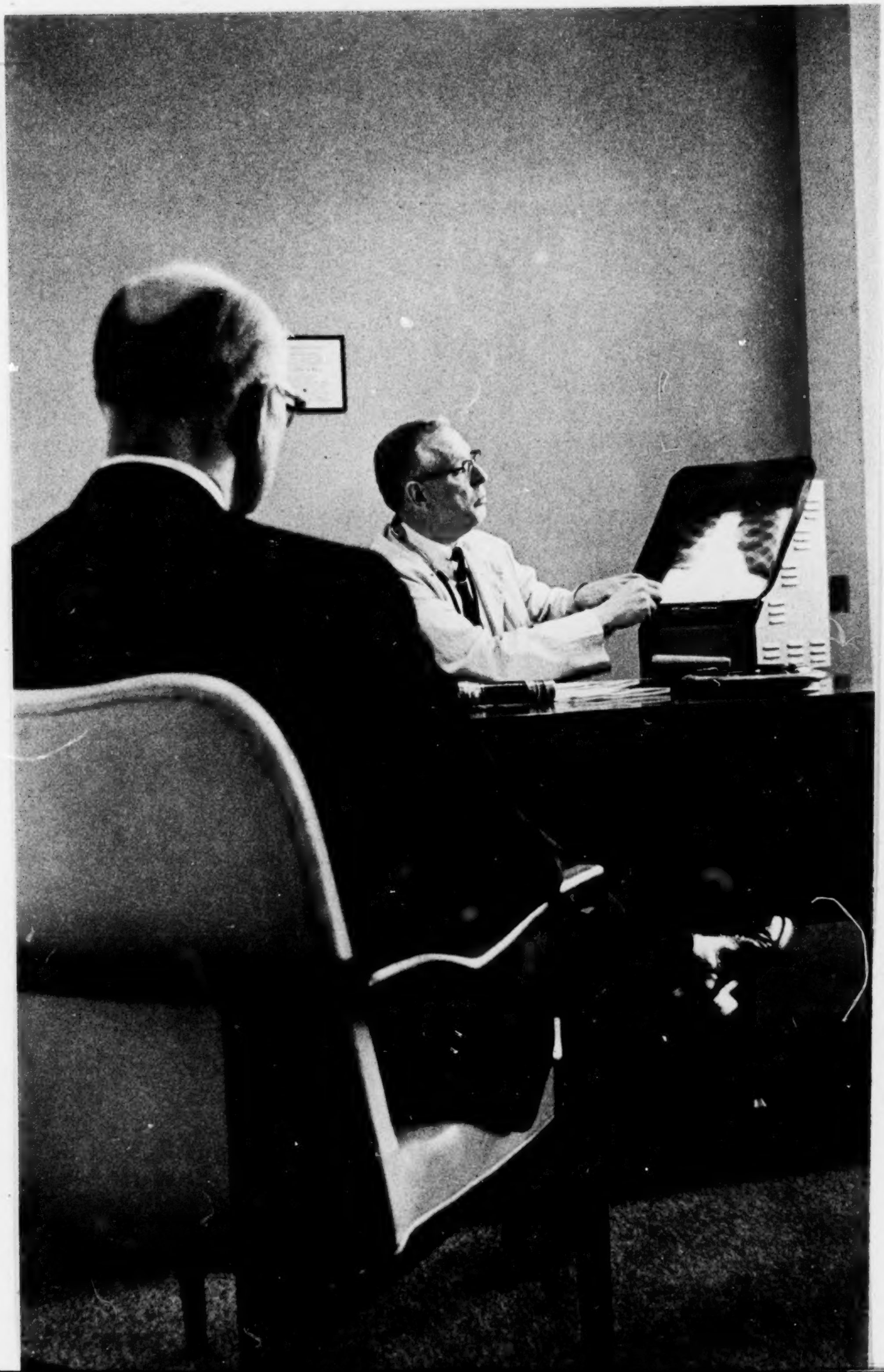
HEIN, FRED V. "Health Classification *vs.* Medical Excuses from Physical Education." *Journal of School Health* XXXII: 14-17; January 1962.

NATIONAL EDUCATION ASSOCIATION AND AMERICAN MEDICAL ASSOCIATION, JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION. *Answers to Health Questions in Physical Education.* Washington, D. C. and Chicago: the Associations, 1959. 22 pp.

PAWSAT, E. H. "Classification of Pupils for Physical Education." *Report of the Seventh National Conference on Physicians and Schools.* Chicago: American Medical Association, 1959. p. 84.

PRESIDENT'S COUNCIL ON YOUTH FITNESS. *Youth Physical Fitness—Suggested Elements of a School-Centered Program.* Washington, D. C.: Government Printing Office, 1961. 111 pp.

REICHERT, JOHN L. "Competitive Athletics for Pre-Teenage Children." *Journal of the American Medical Association* 166: 1701-07; April 5, 1958.



Chapter 14

Health of School Personnel

There is no group whose health is more important to society than that group who make up the staffs of our various schools. Since staff and pupil contacts occur continuously during the school day, the health of the staff directly affects the health of pupils. Communicable diseases may be spread from staff to pupils. Debilitating sickness of a staff member decreases the effectiveness of a part of the school program and prevents pupils from obtaining full value from their school experiences. Good health is necessary for all members of the teaching, administrative, and service staffs, including bus drivers, secretaries, custodians, and food handlers.

Rather than limiting attention to disease problems, a program related to the health of school personnel should include measures to maintain and improve staff health and welfare. A speaker at a symposium on school personnel health raised the following questions, the answers to which are obvious. "Shouldn't we be more concerned with planning a positive health program for all employees? When a community sees it has a shared responsibility in planning a positive program for conserving valued employees, doesn't improved pupil welfare result?"[1]

School concern for employee health is comparable to that of modern commercial and industrial organizations and reflects interest in employee welfare. It also indicates an appreciation of the fact that good health affects favorably the competence of an employee.

The administration's understanding of the influence of a healthy school staff upon the total educational program manifests itself in procedures related to pre-employment health examinations, periodic health examinations, and measures designed to give employees feelings of security and self-respect.

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[1] Askey, E. Vincent. Welcoming remarks at the opening of a Symposium on the Health of School Personnel sponsored by the American Medical Association and American School Health Association, 1961. Available from American Medical Association, 535 N. Dearborn St., Chicago, Illinois.

PRE-EMPLOYMENT HEALTH EXAMINATIONS

Each prospective employee should be required to have a pre-employment examination. Such an examination determines the health condition of an applicant for a school position, whether custodian or superintendent, teacher or food handler, secretary or consultant, supervisor or bus driver. The examination does not guarantee good health in the future but tells the condition of the individual at the time he is examined. Pre-employment examinations help to determine the fitness of individuals and often reveal conditions that can be corrected or ameliorated by treatment.

Pre-employment health examinations should be comprehensive and exacting. They may be made by the prospective employee's own physician and dentist or by such professional persons employed by the board of education. In some instances the employing body pays the examination cost; in other instances it is borne by the individual.

Report Forms Are Necessary

Regardless of whether the examination is performed by the family physician and dentist or a school physician and dentist, a complete report should be submitted on a form provided by the school. This should be developed to meet local requirements; no single form can be expected to give satisfaction in all situations. Study of forms already in successful use is helpful in the development of a useful and practical form. Sample examination forms may be secured from state departments of health and of education and from the American Medical Association.

Results of health examinations are confidential and should be kept in a confidential file. This is true of in-service examinations as well as of examinations made prior to employment. The entire health record of an employee is confidential and should be available only to the school medical advisor, where one exists, or the individual responsible for employing school personnel.

The need for medical information to be classified as confidential was emphasized at a California conference on teacher health. A summary of the conference contains this statement:

> Another important word was *confidentiality*. Here we have two concerns: to maintain the trust and confidence of the teacher, and to be able to transmit information about the teacher to someone who understands what it means. It is of great importance that boards of education have on their staff someone representing the physicians who can transmit and receive the necessary information about an individual teacher. Confidentiality then be-

comes a matter of relationship in which the meaning of the information is correctly understood and used.

In addition, we recognized the importance of the teacher's personal physician. He has special opportunities to help the individual through health counseling and care. As in the usual physician-patient relationship, no report of any kind on the teacher has to go from the private physician to the district or other agency. If we can help private physicians to understand the importance of teacher health, then the teacher and his personal physician can build together for the individual's greater strength.[2]

Applicants for Instructional Positions

The health of instructional employees is important for the support it gives to a good teaching personality. The effectiveness of the teacher, whose work constantly involves human relations, reflects his own mental and physical health. The personality of the candidate deserves special attention by the employing officer. The candidate's philosophy, interests, recreation, and associations with other persons, both past and present, should be scrutinized. At times, information will be sought from the institution where the applicant received his preparation. The ultimate decision of the employing officer will be influenced by such information as well as by the careful estimate that a physician gives after he has become familiar with the individual's health history, checked his present health condition, and noted his reactions during the health examination.

Noninstructional Personnel

A pre-employment health examination of noninstructional personnel is as essential as for members of the teacher group.

School bus drivers are a case in point. Their influence upon their school-age passengers is significant. Drivers are enclosed with children in a relatively restricted space for considerable periods of time, and the possibility of infection always is present. The hazards of the highway are magnified if the driver has physical or mental disabilities that interfere with his ability to operate a motor vehicle effectively. Also, a bus driver with a personality defect may have a more damaging effect upon the lives of children than one whose physical health is below par.

Engineers and custodial employees are employed to add to the qualities of cleanliness and healthfulness of the school. If their personal health is inadequate or if they are unable to adapt themselves to the activities and events of a school, they cannot perform their duties successfully.

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[2] California Medical Association, California Teachers Association, and California State Department of Education. *Report of the Conference on Teacher Health.* Sacramento: the Associations, 1960. p. 5.

School clerks and secretaries, an integral part of the school environment, frequently come in close contact with teachers and children. Often they give persons outside the school, through telephone calls and interviews, the first and perhaps the principal impression they receive of the nature and quality of the school's operation. The sound health of clerical workers and others is reflected in good public relations, as well as in their work performance.

Food handlers are almost always required to pass special health examinations—and always should be so required. State, county, and local health departments frequently prescribe the nature of the examination. In some instances the examination is provided by the health department; in other cases it is necessary for the school to set its own standards and to require health examinations designed to protect all concerned. Health examinations need to be supplemented with day-by-day supervision of food handlers and of food handling practices. For identification of individuals with acute sickness, day-by-day supervision is of greater importance than periodic medical examinations.

A special problem exists in lunch rooms and cafeterias staffed by volunteer and student workers. Without the cooperation of interested mothers, many schools would be unable to provide nourishing noon lunches for children. Again, many schools employ student helpers for peak periods of service. However, there is no reasonable argument for excusing a food handler from a health examination or permitting improper food handling practices merely because work is done on a part-time basis or without wages. The school administration is fully responsible for the school lunch program whether the staff consists of paid or volunteer employees and should require and pay for examinations of volunteer lunch room workers.

Sometimes members of the noninstructional staff appear to be in greater need of health examinations than members of the teacher group. Maintenance employees and others in this group may be in a relatively high age bracket. They may live under circumstances which make them subject to frequent infections. For members of this group, as well as for those concerned with instruction, pre-employment health examinations and ongoing health supervision can be a means of protecting and improving health. Medical examinations, including an x-ray, may reveal conditions which are entirely unsuspected by the individual. Examinations can result in the identification of serious communicable and noncommunicable health problems and in the correction of various impairments to health.

PERIODIC HEALTH EXAMINATIONS

Good health among school personnel depends basically upon each individual being aware of its importance and taking intelligent action to protect and improve it. However, the health of school employees is of interest not only to the individual employee but to boards of education, administrators, parents, and others.

Evidence of board of education interest and concern is found in requirements that employees obtain periodic medical examinations at intervals of one, two, or three years. As stated at one conference on employee health, "School boards require a means of assuring themselves that their teachers have periodic health evaluations and that such examinations are sufficiently comprehensive to include emotional health status. Periodic checkup should also be used for counseling should the teacher request or require it. The district should provide examination forms for examinations of physical and emotional health. It should determine the required intervals between examinations."[3]

Purposes of Health Examinations

Health examinations for school personnel serve many purposes. Some of the more important ones have been stated in these words:

> To protect and promote the health and welfare of school personnel.
> To assure employment of persons physically and emotionally fit.
> To insure effective, sustained performance.
> To assure early diagnosis and correction or adjustment of health problems.
> To elicit need for accepted preventive health measures.
> To protect the health and well-being of the school-aged child.
> To afford opportunity for health education and guidance.
> To serve as a means of screening prospective staff members.
> To teach and demonstrate by example.
> To ascertain the total health status of the employee.[4]

Regardless of periodic examination requirements, an employee should be subject to examination at any time if, in the judgment of the appropriate school authority, there is warrantable suspicion of poor health.

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[3] California Medical Association, California Teachers Association, and California State Department of Education, *op. cit.*, p. 12.

[4] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Health Examination of School Personnel.* Washington, D. C. and Chicago: the Associations, 1960. pp. 4-6.

The health examination is of value to both the individual and the schools. It gives employees an opportunity to learn about their health assets and liabilities. At the same time it gives the employer a feeling of security growing out of knowledge that the individual is fit for his job.

For an employee to consult a psychiatrist is as fitting as for him to see a heart specialist. In physical disorders and in those involving the mind and the emotions, early recognition is of greatest importance. Early correction, which can result from thorough employee health examinations, is the desired objective.

Administrative Procedures

A document prepared by the Connecticut Advisory School Health Council and sent to each local board of education and superintendent of schools by the State Commissioner of Education and State Commissioner of Health outlines the importance of periodic medical examinations for school personnel and then suggests procedures which are helpful in planning programs and in assuring that the results of examinations will be kept confidential. The document states:

> It is strongly suggested that, when a Board of Education is considering a requirement for health examinations, the personnel should be consulted at the outset and invited to cooperate in development of the policies. This can be done through a series of conferences participated in by a board member, a member of the administrative staff, the school system's medical advisor, the head of the school nurses, and at least one representative of each group of employees. In large systems, it may be desirable to have a representative present from each school.
>
> It is recommended that the form and contents of the local medical examination be developed by a subcommittee which could include the school medical advisor, the school nurse, the local director of public health and representative of physicians who practice locally.[5]

Suggestions regarding the confidential nature of medical findings are expressed in these words:

> The details of the health examination should remain confidential between the individual and the examining physician.
>
> Where the examining physician is somebody other than the school medical advisor, he should file with the school medical advisor general information

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[5] Connecticut State Department of Education and State Department of Health, Connecticut Advisory School Health Council. *Recommendations Regarding Health Examinations for School Personnel.* Hartford: the Departments, 1962.

concerning any disabilities discovered, whether such defects are correctable, whether the individual is being treated for them, and what adjustments, if any, should be made in job arrangements.[5]

The Connecticut document contains several suggested forms for use in the medical examination program. One is a letter to physicians explaining the purposes of required examinations. Others are a report from the examining physician to the school medical advisor and a health certificate for the school personnel files. The latter are shown in Figures I and II.

Procedures relating to periodic medical examinations for school personnel need to be developed locally. Important principles which should be given consideration include the following:

1. Representatives of various categories of school personnel, members of the school health staff, and representatives of the local medical society should be involved in planning the program.
2. The procedures should be designed to be of maximum benefit to each employee.
3. All aspects of health should receive attention.
4. Decisions should be made regarding the frequency and extent of examinations, who should make the examinations, and who should pay for them.
5. All school personnel—administrative, instructional, and service—should be included in the program.

A Tragic Occurrence

The experience of a midwestern community illustrates the tragic consequences which may result from failure to check the health condition of even one school employee. In this community all teachers were x-rayed for tuberculosis in the fall, but a sixth grade teacher who joined the staff in January was not required to furnish evidence that he was free from the disease. In April, following the discovery that one of his pupils had a positive tuberculin test, the new teacher was examined and found to have active tuberculosis.

Tuberculin tests given to all pupils and all school personnel produced startling results. Among all the pupils in the school (excluding the sixth grade class), only 3.7 percent were positive reactors; of the 44 pupils in the sixth grade, *100 percent were positive reactors.*

Health authorities immediately went into action. Children and adults with positive tuberculin tests were x-rayed. The homes of all positive reactors were visited by a public health nurse who

FIGURE I

HEALTH EXAMINATION REPORT
For School Medical Advisor's Files

Individual's Name____________________ Date________________

Address ____

The health examination required by the Board of Education has been made by me or under my supervision and the following are the results:

Hearing:	Excellent____	Good____	Adequate____	Poor____
Vision:	Excellent____	Good____	Adequate____	Poor____

____In my opinion this individual has no physical, emotional or mental disability, is free from tuberculosis and other communicable diseases, and has no other defect which might threaten or endanger the well-being of co-workers or pupils.

____In my opinion this individual is physically and emotionally able at this time to perform the work assigned, but has the following disabilities or limitation. (Please indicate whether they are correctable and whether treatment is being received.)

____

____

I would recommend modification of work program as follows:

____

____On the basis of my examination, I feel this individual is not presently capable of performing the work assignment for the following reason(s).

____

Signed:__________________M.D. Address:________________

FIGURE II

HEALTH CERTIFICATION
For School Personnel Files

Individual's Name____________________ Date________________

Address ____

I have examined the above named individual and find him/her physically and emotionally capable of performing the duties of the position occupied or applied for.

Satisfactory tuberculosis test:

Tuberculin test________ Chest X-ray________ Date performed________

SIGNED: ________________________M.D.

____

(address)

explained the situation and urged that all members of the family be checked with either a tuberculin test or a chest x-ray. After several months the results of investigations were summarized as follows:

1 teacher with active, primary TB.
1 teacher hospitalized with active pulmonary TB.
3 students with active pulmonary TB.
16 students diagnosed as having active, primary TB and placed under medication for at least one year.
66 students to be checked every year the rest of their lives.
6 adults to be checked every year for the rest of their lives.[6]

Similar occurrences have been reported from a number of other communities, and can happen at any time and in any place. Efforts to prevent such catastrophes should include periodic health examinations for all school employees with care taken to include either a tuberculin test or a chest x-ray.

OTHER FACTORS AFFECTING HEALTH

Various practices in school organization and administration influence employee feelings of security and self-respect, in other words, their emotional health. Among such factors are tenure, salaries, sick leave, retirement provisions, insurance, and administrator-staff relationships. Although health may not be the major concern in establishing any of these practices, each has an important bearing on employee welfare and feelings of well-being.

Tenure of Employment

A sense of security, engendered by legal tenure, bolsters the morale of instructional personnel. In some states, continuing contract laws are in effect and provide that a teacher who is not notified of dismissal before a given date is considered to be appointed for the following year at an unchanged rate of salary.

Many employment situations governed by an annual-contract procedure are comparable to those where tenure laws are in effect. Employees who demonstrate proficiency usually can rely on continued employment, but some unfortunate exceptions do occur. It is the responsibility of school administration and the public in general to provide safeguards against unwarranted dismissal of capable and productive school employees.

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[6] Taylor, L. L. "100 Per Cent Is Not Always Good." *Journal of School Health* XXXII: 385; December 1962.

Salaries and Health

School administration must provide reasonable remuneration if qualified and competent teaching personnel is to be secured and retained. A school nurse who feels she is underpaid can readily find employment elsewhere. A secretary can take dictation from a school administrator or from a businessman in another office in the community. In noninstructional fields a broader market than that established by the schools sets the going rate of payment. Teachers, however, are specialists who have completed extended periods of professional preparation. There is only one public school system in a community. For salary advancement a teacher can turn only to another school system or to a field of work for which his preparation does not especially fit him.

The current salary of a teacher is important, but equally important is the salary to which he can look forward next year and in the years to follow. Therefore, a realistic projected salary plan must be given serious consideration by school policy makers.

A salary schedule is simply a carefully detailed statement of the policy of the board of education or other governing body with respect to the remuneration of those it employs. Conditions may cause the policy to be changed, but it is important for the policy to be stated. It is a strong factor in building morale.

Sick-Leave Provisions

Sick leave with pay for school employees is an accepted and desirable practice. Although sick-leave policy usually is the responsibility of local boards of education, many state legislative bodies have enacted statutes related to the subject. The NEA Research Division study of teacher personnel practices in 1956 showed that, of a representative sampling of 1,973 urban school systems, 98 percent indicated that sick leave with full pay was granted for varying periods. Cumulative sick leave was provided in 91 percent of 1,927 systems reporting.[7]

Sick leave benefits both the employee and the pupils. The employee is encouraged to take care of his health; he does not feel that it is necessary to drag himself to school when his condition is such that this action would endanger his recovery from sickness. Pupils are spared the possibility of being exposed to a communicable condition or to ineffective, lackadaisical teaching, the latter frequently characterizing the efforts of a below-par teacher.

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[7] National Education Association, Research Division and Department of Classroom Teachers. *Teacher Leaves of Absence.* Discussion Pamphlet No. VII. Revised edition. Washington, D. C.: the Association, 1961. pp. 3, 5.

Safeguards are necessary to prevent unscrupulous employees from taking advantage of sick-leave provisions. Often, employees who are absent more than a specified number of days are required to submit evidence of their condition and of the fact that they are receiving treatment. Individuals with frequent absences over a period of time may be queried by health personnel to determine if they suffer from a condition which can be ameliorated by treatment.

For the teacher with several years of employment, cumulative leave provisions usually are adequate. The teacher who is comparatively new to a school, however, may find that a long illness is not covered by sick leave. A few schools have placed unlimited sick leave in effect. Under this policy an employee is required to pass a health examination annually. When illness occurs and an employee is unable to report for duty, he so informs the official in charge and a substitute, if needed and available, is provided at school expense. The regular employee's salary is paid in full, but only through the remainder of the contract year, if employed under that form of agreement. A medical certificate may be required; but in smaller school systems where employees are known more intimately, the word of an employee often is accepted.

Leave, usually amounting to five days, is often granted in cases of death in the immediate family. The policy of allowing an employee limited leave on account of illness in the household is becoming more widespread.

Insurance for Teachers

Various forms of insurance are available to teachers and other school employees on either an individual or group basis. The two forms most commonly used are so-called health insurance (hospitalization, surgical coverage or medical coverage) and disability insurance.

Hospital expense insurance provides benefits to help meet the cost of hospital confinement as well as the cost of certain ancillary hospital services. It may be obtained from nonprofit organizations such as Blue Cross or through private insurance companies. Blue Cross plans generally provide benefits in the form of specified services rendered by a member hospital on the basis of prior agreement with that hospital. Insurance companies offer hospital expense insurance which provides benefits in the form of a cash payment for each day the policyholder is hospitalized.

Surgical expense and medical expense insurance plans are designed to assist persons in financing the cost of unexpected surgical and medical emergencies. Blue Shield contracts include a list of surgical procedures and specify the benefits to be paid in accordance with a schedule of allowances. Surgical expense contracts offered by insurance companies are comparable in nature. Medical expense insurance plans, obtainable either from a nonprofit organization or from an insurance company, vary widely in the benefits they provide. Many individuals obtain insurance to protect them only in cases of serious illness or injury.

Disability insurance, as its name implies, is a form of protection against loss of income resulting from nonoccupational sickness or accident. It is intended to provide an employed person with funds during the period that his earning capacity is cut off by disability in order to help him meet normal family expenses as well as medical care bills.

In most states school employees are covered by workmen's compensation insurance, the cost being paid by boards of education. This insurance provides benefits to those who become injured while engaged in their assigned duties or become sick because of conditions under which they work.

Insurance is a means of helping an individual meet the expenses connected with serious sickness or injury, and thus maintain his financial stability. Each school employee should carefully evaluate health insurance available to him on a group basis and utilize such forms and amounts as will help meet his needs. He may then supplement such protection with individually purchased insurance. The provident teacher makes use of a reasonable amount of insurance protection.

Planning for Retirement

School employees hope that when they retire they will have money to pay for the necessities of life and have some left over for the enjoyment of simple pleasures. The attainment of this goal depends on many factors, some the responsibility of the board of education and others the responsibility of the individual.

The optimum age for retirement depends on the individual. Some persons can work effectively and with pleasure and satisfaction until they are in their seventies; others might benefit from retirement in their early sixties. Wherever possible a flexible procedure for determining when an employee must retire should be adopted.

School board responsibility includes the provision of a retirement program. Although each state now has some kind of retirement plan, the plans vary from state to state. The school system or state which does not provide a sound, well-financed retirement program is at a disadvantage. While many retirement programs include all school employees, noninstructional workers are not included in some states. These employees may be covered under a state employees' retirement plan.

Federal Social Security is available to supplement retirement programs for school employees if arrangements are made with the Social Security Administration and provision is made to match the payments employees are required to make.

Teachers who for various reasons move from one state to another sometimes find that they must sacrifice part of their retirement benefits because their retirement account is not transferable. There is a trend toward protecting retirement benefits so that a person leaving a state retains benefits due because of payments made by him, by the board of education, or both.

Each individual should anticipate his retirement and plan for making the necessary adjustments. He should attempt to set aside funds during his years of employment to supplement those which he will receive from his retirement program, possibly through an annuity plan. Furthermore, he needs to select ways in which he can use his newly available free time for constructive and enjoyable activities. Some work, volunteer or otherwise, combined with some play and travel and some participation in community activities can make the 15 to 20 or more years following retirement a most enjoyable period of life.

The teacher or other employee who plans intelligently for retirement and knows that he will have a reasonable income following retirement faces the future with confidence. His outlook on life is serene. He is a better teacher than one whose thoughts are filled with fears and apprehensions about what will happen to him in the future.

Teacher-Administrator Relationships

The way a school is administered has an important bearing on the health of teachers.

While it is recognized that legal responsibility for policy-making decisions rests with boards of education, the advice and counsel of employees gives a solid base for these decisions and makes for enthusiastic cooperation in their implementation. Those who will be responsible for carrying out a policy or be directly influenced by it may reasonably expect to be consulted as the policy is being formed. Teachers may desirably be given opportunities to participate in the development of policies relating to such matters as the curriculum, salary schedules, methods for reporting pupil progress to parents, selection of textbooks, and personnel policies. Participation in policy making helps teachers to feel that their professional competency is recognized and that they have an important role in developing the total school program.

The ability to develop harmonious relationships among children and teachers marks a professional staff which is emotionally stable. It is also evidence of good school administration. Such relationships are fostered by good school conditions—classes that are not too large, teaching loads that are equalized, and classroom interruptions that are minimal in number. Teachers should be free to relate their efforts to the needs of pupils rather than being bound by rigid courses of study. The school can exemplify a living democracy in which wise, friendly leaders guide their younger associates along the difficult road to responsible, cooperative adulthood.

The health needs of school personnel are emotional as well as physical. Some of the emotional needs have been expressed in these words: "Fundamental to a healthy and effective teacher is the human need for respect and approval by fellow-teachers, status and recognition by supervisors, parents and other members of the community. Only when this is achieved can we hope to find high level wellness in the teacher, one with buoyancy and energy, one with the ability to think clearly and to plan carefully."[8] Administrative procedures can do much to meet these emotional needs of employees.

All school employees share in the relationships which make or break the school. Each individual may need help at some time; the most effective help is that given at the right moment. The school administrator who successfully adjusts relationships among teachers and other personnel paves the way for cheerful cooperation and avoids possible annoyances and disturbances.

Good relationships among school employees, the board of education, and the community promote the emotional health of employees and help create an effective school program. Such relationships, coupled with sound employee health practices and measures directed toward promoting feelings of security and satisfaction in work, are essential procedures in protecting and maintaining employee health.

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[8] McGee, Lemuel C., M.D. "Keeping People Well." Paper presented at a Symposium on the Health of School Personnel sponsored by the American Medical Association and American School Health Association, 1961.

FOR FURTHER READING

AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION. *Fit to Teach.* Washington, D. C.: the Association, a department of the National Education Association, 1957. 249 pp.

AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS. *Health in Schools.* Revised edition. Washington, D. C.: the Association, a department of the National Education Association, 1951. 477 pp.

AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS. *Administering Sick Leave Program for School Personnel.* Washington, D. C.: the Association, a department of the National Education Association, 1954. 24 pp.

AMERICAN MEDICAL ASSOCIATION AND AMERICAN SCHOOL HEALTH ASSOCIATION. Symposium on the Health of School Personnel. 1961. Mimeographed papers available from American Medical Association, 535 N. Dearborn St., Chicago, Illinois.

ASSOCIATION OF BETTER BUSINESS BUREAUS. *Facts You Should Know About Accident and Health Insurance.* New York: the Association, 1954.

CALIFORNIA MEDICAL ASSOCIATION, CALIFORNIA TEACHERS ASSOCIATION, AND CALIFORNIA STATE DEPARTMENT OF EDUCATION. *Report of the Conference on Teacher Health.* Sacramento: the Associations, 1960. 17 pp.

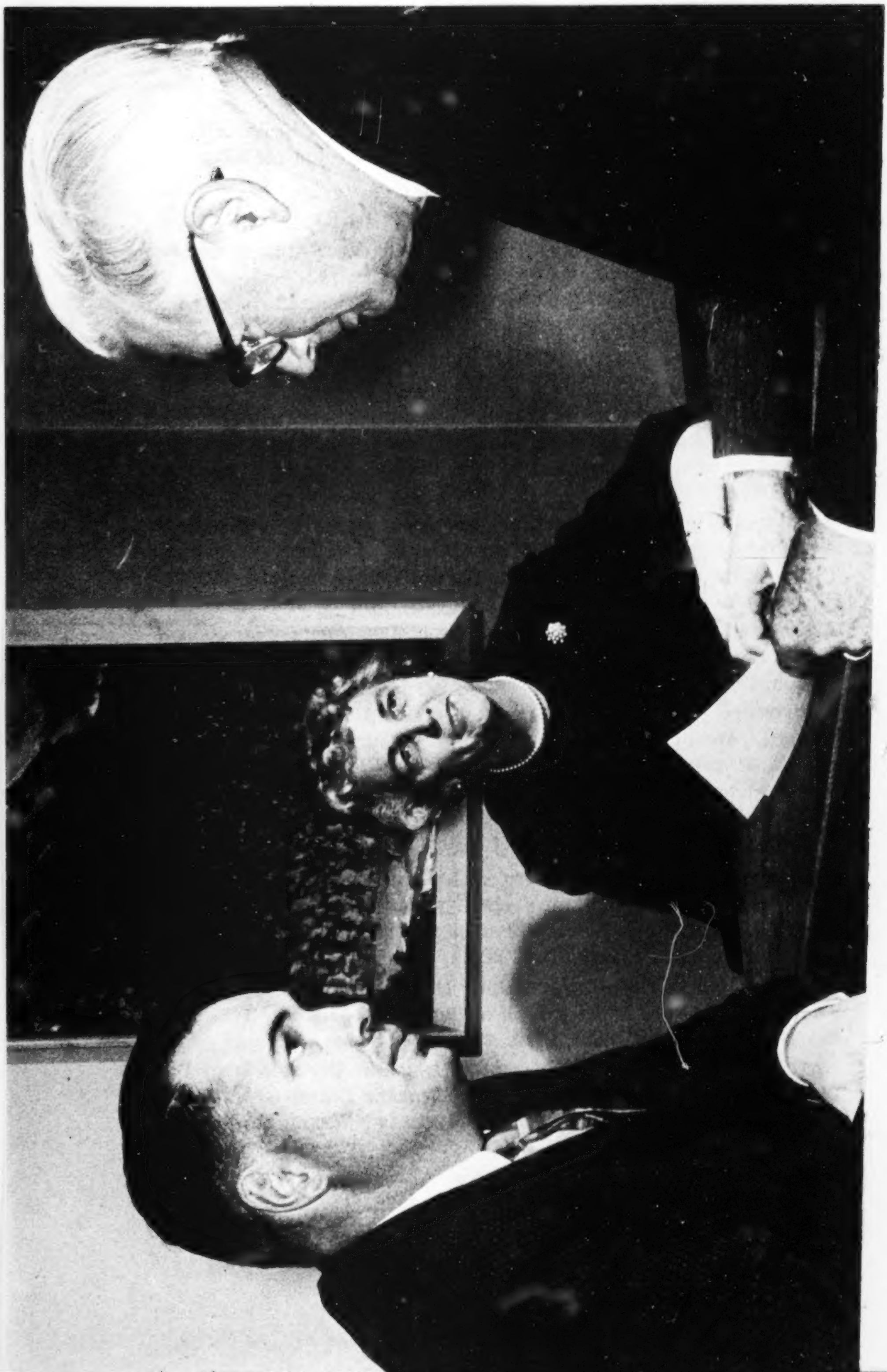
HUGGETT, ALBERT J., AND CLIFFORD, J. M. *Professional Problems of Teaching.* Ann Arbor, Mich.: J. W. Edwards, 1950. 147 pp.

NATIONAL EDUCATION ASSOCIATION AND AMERICAN MEDICAL ASSOCIATION, JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION. *Health Examination of School Personnel.* Washington, D. C. and Chicago: the Associations, 1960. 22 pp.

NATIONAL EDUCATION ASSOCIATION, DEPARTMENT OF CLASSROOM TEACHERS. *Factors Making or Marring Good Teaching.* Washington, D. C.: the Department, 1950. 17 pp.

NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION AND DEPARTMENT OF CLASSROOM TEACHERS. *Teacher Leaves of Absence.* Discussion Pamphlet No. VII. Revised edition. Washington, D. C.: the Association, 1961. 24 pp.

TAYLOR, L. L. "100 Per Cent Is Not Always Good." *Journal of School Health* XXXII: 385; December 1962.



Chapter 15

Administration of School Health Services

Sound and courageous administration is essential to the success of all parts of the school program, including school health services. Effective functioning of these services requires that the school administrator know his community, understand that the school health program is one part of a total community health program, and appreciate the contributions to child health that can be made by the schools, by various professional persons, and by community agencies. Helpful leadership will assure that objectives are clearly stated and that each individual's responsibility for activities leading to their attainment is thoroughly understood.

The school administrator who gives health its deserved place in the curriculum relates school health activities to the basic objectives of education and sees that his own actions support an important place for health in the school program. He develops an organizational pattern for school health services and coordinates these services with the instructional program. He sees that school health activities are appropriately related to those of parents, the health department, practicing physicians and dentists, and various community organizations. On the shoulders of the administrator rests responsibility for securing the services of necessary special health personnel and for ascertaining their personal and professional qualifications. Other important functions of the administrator are the development of programs of evaluation and the organization of in-service education for all concerned with school health services. Finally, as is true for all school services, the administrator makes adequate budgetary provision for the program, including funds needed for personnel, equipment, and supplies.

ADMINISTRATIVE PRACTICES REFLECT CONCERN FOR HEALTH

In recent years there has been a tendency to broaden and enrich the learning experiences of pupils and to accelerate greatly the

nver Classroom Teachers Association

tempo of living within the school. Outside the school, pupils experience the impact of swiftly moving events and the uncertainties and confusions of a world in conflict. Against the background of these changing conditions it is necessary that the objectives of the school be periodically re-examined and that every effort be made to put first things first in serving the needs of children and youth.

There is widespread agreement that health must continue to be a concern of the schools. This consensus is reflected in a recent statement by the Educational Policies Commission.[1] In substance this statement indicates that to accomplish the central purpose of education, which is the development of the ability to think, the school has an obligation to help assure certain conditions basic to this objective. One such condition is health, since only a healthy child can profit fully from his learning experiences and attain optimum intellectual development.

The extent to which the health needs of children and youth are met depends partly upon those who are responsible for school administration. If these individuals attach high priority to health objectives, their interest and concern will be reflected throughout the entire school system. If they relegate health to a place of secondary consideration and importance, their lack of concern will inevitably be reflected in all the activities of the school and in the interactions of teachers, parents, pupils, and others involved.

A Broad Viewpoint

The administrator who succeeds in promoting effective school health services will be one who interprets health with considerable vision and perspective. He will recognize that healthful living involves more than physical well-being and will attach appropriate importance to the social, emotional, and intellectual aspects of the growth and development of pupils. In seeking to improve curricular practices, the health-conscious administrator will encourage maximum flexibility to the end that learning experiences are geared effectively to the characteristics and capacities of individual students. Young children will be taught to read when they are ready psychologically and physically. Secondary school students will be encouraged to pursue a curriculum consistent with their individual aptitudes and talents.

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[1] National Education Association and American Association of School Administrators, Educational Policies Commission. *The Central Purpose of American Education.* Washington, D. C.: the Commission, 1961. 21 pp.

Human Needs and Human Relationships

Every good administrator wants his schools to operate smoothly and efficiently. However, the administrator who is concerned with the health of pupils will never permit desire for mechanical efficiency to obscure human values. Classroom and building schedules will not be determined in a central office and rigidly imposed upon teachers and students. There will be sufficient flexibility in the schedule of daily activities to permit individuals and groups within the school to vary and adapt their programs to meet changing and unpredictable needs and conditions.

The administrator who seeks to avoid rigidity and regimentation in the organization and management of his school will also encourage consideration of health factors in arranging the programs of individual students. Evidence of physical fitness will be required of all pupils who engage in strenuous physical education and particularly of those who compete in vigorous sports. The nature and number of curricular and extracurricular activities in which pupils participate will be determined insofar as is possible in accord with individual needs, abilities, interests, and capacities. A continuing effort will be made to provide each pupil with challenging learning opportunities that encourage optimum development without causing undue tensions, pressures, and conflicts.

The attitudes, ideals, and values that motivate the behavior of adults who live and work with pupils play an important role in creating a healthful school environment. The administrator who exercises democratic leadership and achieves good human relationships among teachers, parents, and other citizens of the community contributes enormously to the health of pupils. Teachers who experience satisfaction and security in their work tend to exhibit warm, friendly, and gracious attitudes toward their pupils. Parents and other citizens of the community who participate responsibly in the activities of the school help to eliminate conflicts to which pupils are sometimes exposed when school and community work at cross purposes.

Leadership and Planning

As the person having over-all responsibility for effective school health services, the school administrator will seek to create an awareness of the importance of health among school personnel and persons in the community concerned with schools. The success of his leadership will be determined by the extent to which health considerations are recognized as an integral part of the total educational program and by the extent to which health objectives are translated into the daily living practices of pupils, teachers, and other school personnel.

Effective organization of school health services requires intelligent action. Whether the services are designed for a one-room rural school or for the schools of a large metropolitan city, there is need for services dealing with (a) health appraisal (including teacher observation, hearing and vision screening, medical and dental examination, and identification of mental health problems), (b) health counseling and follow-up relating to all types of health problems, (c) emergency care of injury and sickness, (d) communicable disease control, (e) school sanitation, and (f) health of school personnel. Procedures related to each of these areas have been presented in previous chapters. Application of these procedures in a particular school or school system is facilitated by efficient administration.

ORGANIZATION OF SCHOOL HEALTH SERVICES

School health services are organized in different ways in the various states. In some states the organizational pattern is the same for all local units; in others, the pattern may differ in various communities. Variations may be due to tradition, the nature of state statutes permitting or requiring school health services, the philosophy underlying school administrative policies, or the personnel available in the department of education and department of health.

Patterns of Organization

The organization of school health services in a local school system is best considered in relation to the total school health program. Among the various patterns that exist, the chief difference is in the agency which employs physicians and nurses who serve the schools.

In one type of organization, all school health activities may be planned and conducted by employees of the board of education. School health education and school health services may be placed in a single administrative unit. These parts of the program may be combined with physical education, forming a health and physical education unit. In some instances, school health services are in a separate unit under a director of school health services. In a few instances, school health services are part of pupil-personnel services, an organizational division which may also include guidance, psychological services, social services, and special education. Where this type of organization exists, it is desirable that school personnel invite the cooperation of public health personnel and the local medical and dental professions in establishing objectives, policies, and procedures.

In a second type of organization, health education and related services are under the direction of school personnel whereas school health services are a responsibility of the local board of health. In such circumstances, the health department employs the physicians and nurses who will work with the schools. Policies, procedures, and personnel assignments are arranged in cooperation with school personnel.

Within recent years a third type of organization has been developed, one in which the education department and the health department jointly assume responsibility for school health services. This type of organization, increasingly used, recognizes the interest of both these departments in the health of children and facilitates utilization of the resources of each department.

Successful programs of school health services are possible with any of these organizational patterns, provided qualified leadership and an adequate amount of service from special health personnel are available.

Recommended Principles

It is neither possible nor desirable to prescribe a single pattern for the organization of school health services. The pattern for a particular community should be developed locally with due consideration to such factors as local finances, community resources, state requirements, and local needs.

It is possible, however, to suggest principles which may be applied in local situations. A cooperative study conducted jointly by the Council of Chief State School Officers and the Association of State and Territorial Health Officers resulted in the formulation of the following principles for the organization and conduct of local school health services:

1. School health services should be planned jointly by departments of education and health with other representatives of the medical, dental, nursing and education professions, voluntary agencies, and other groups that have a continuing interest in the health of school-age children.

2. A most important factor in a successful school health program is the cooperative leadership by both educational and health administrators and their mutual interest in achieving their common goals.

3. Although an agency may be charged with a specific responsibility, the administration of that responsibility should be the result of joint planning with other appropriate agencies.

4. It is the responsibility of the department that first recognizes a health problem in the school to initiate joint planning.

5. School health services should be organized so as to utilize fully the resources of the schools, the health department, the medical, dental, and nursing professions, and other agencies and groups, without duplication of facilities or services.

6. School health services should be properly related to other community health services. This relationship requires continuing contact and joint formulation of programs.

7. The authority and responsibility of the superintendent of schools for all activities conducted within a school system and that of the principal or teacher in charge of a particular school or classroom should be recognized. It follows that all health service activities in the school should be in accord with the school's policies and with sound educational principles.

8. The health officer has authority and responsibilities in all matters that affect the public health of the community. Since school children are one segment of the population, his interest and responsibilities for school health services should be recognized. Such services should be conducted in accord with sound medical and public health practices.

9. Through planning and continuous evaluation at the local level definite procedures should be developed. These should be followed by each agency representative involved in performing specific school health services. Proper understanding of his functions by each person concerned will avoid misunderstandings that interfere with effective services.

10. All people who come in contact with the child in the school situation and influence the child's health, particularly the teacher, play important roles in school health services.

11. School health services should be conducted so that the efforts of each individual or group may be directed toward situations in which past experience and training makes possible the greatest contribution.

12. Just as the educational implications of health services should be developed under educational leadership, so should medical, dental and nursing services be developed under medical, dental and nursing supervision.

13. Medical, nursing and other health personnel serving the schools are of vital importance in the program and should meet the qualifications recommended by the appropriate accreditation groups. The key to good programs is competent personnel, regardless of the agency through which the personnel is employed.

14. Demanding schedules and manpower shortages in both the health and education fields make judicious use of the time of individuals in both groups imperative. Thus, the use of specialized health personnel in performing nontechnical screening tests cannot be justified. The same principle applies to the allocation of the nurses' time in respect to minor first aid, or the teachers' time in clerical work and record keeping. Priorities relating to the best use of the professional time of those involved in the school health program must be worked out locally. These should be based upon sound principles both of public health practice and of educational administration.

15. There should be mutual respect for the competencies of each of the professional personnel participating in the program, as well as understanding of their limitations.

16. The education and health departments should each designate one person to act as the channel of contact between the two agencies. In some cases, upon agreement, the same person may be designated by both departments.

17. School health services should be conducted so as to make full use of their potentialities for health education. Conversely health education should contribute to a better understanding of school health services by children and their parents.

18. In order to receive maximum benefit from his educational experiences, the child should begin school as free as possible from any health condition that may interfere with his school progress.

19. As a basis for action, studies should be made to determine the health needs of children, utilizing examinations, tests, observations of behavior, illness and absence records, and other information.

20. The extent to which the health needs of children are now being met by home, school, and community should be determined.

21. Programs for planning and action in school health services should be consistent with the health needs of children and should take into account the extent to which present services meet those needs.

22. The details of school health services may be given convenient labels for purposes of identification, but the program should be organized and administered as a whole without compartmentalizing the various aspects of these services.[3]

Utilization of these principles in the development and conduct of school health services will help to produce an effective program, one that will justify widespread community support and result in the greatest possible benefits to children and youth.

COORDINATING HEALTH EFFORTS

Regardless of organizational pattern, school health services require teamwork among teachers, physicians, dentists, nurses, psychologists, and others. They require also that the schools and the health department work together in the interest of pupil health. Furthermore, there must be harmonious relationships with practicing physicians and dentists. Developing cooperation and teamwork is an important administrative responsibility.

Teamwork Within the School

All persons who work within the school must be fully aware of the objectives of different parts of the school health program and of their particular responsibilities in various health service activities. The duties of the physician, for example, should be so defined that he knows exactly what is expected of him in the area of school sanitation, the control of communicable diseases, mental health, the care of emergencies, health appraisal, and health counseling. He should know what role teachers and nurses will play in health appraisal, in the care of emergencies, and in the control of diseases. Clearly defined functions help each person understand his job in relation to the work of others.[3]

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[3] Council of Chief State School Officers and Association of State and Territorial Health Officers. *Responsibilities of State Departments of Education and Health for School Health Services.* Revised edition. Washington, D. C.: the Council, 1959. pp. 5-8.

In order that the teacher and nurse may work together effectively, definite policies must be established in those areas in which the responsibilities of the one closely approach those of the other, such as weighing and measuring, vision testing, hearing testing, care of emergencies, health counseling, health education, and communicable disease control measures.

In addition to the physician and nurse operating within the school health service program, other professional persons may be available, such as a psychiatrist, psychologist, social worker, dentist, or dental hygienist. If the services of these persons are to produce optimum benefits for children, the teacher must know how to work cooperatively with them. The presence of such specialists does not detract from the importance of the contribution which can be made by the teacher. In fact, through the consultation and guidance of such specialists, the contributions of teachers can be augmented. This is possible, however, only when duties, opportunities, and interrelationships are clearly defined.

Teamwork among those engaged in health activities in a school can best be achieved when responsibility for providing leadership is definitely placed. The principal, a qualified teacher, or a nurse may be designated as health coordinator or given the responsibilities of such a position without any special designation.

A basic responsibility of the person coordinating health activities is to establish appropriate lines of communication among various persons concerned with school health services and to arrange periodic meetings to discuss and review established policies and procedures. Teachers need to know how they should communicate with nurses and physicians, and physicians and nurses need to know the best procedures for getting information to and from teachers. All should know how joint conferences may be arranged.

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[3] National Conference for Cooperation in Health Education. *The School Administrator, Physician, and Nurse in the School Health Program.* School Health Monograph No. 13. New York: Metropolitan Life Insurance Co., 1950. 56 pp.

It is important that the principal or other person responsible for coordination arrange periodic meetings of all persons concerned with school health services. These should be a planned part of in-service education.

At staff meetings consideration can be given to progress made and problems encountered. Attention can be devoted, as needed, to replanning parts of the program that may be subject to improvement. Continuing evaluation of the school health program including school health services should be another assignment of the health team working cooperatively.

Cooperation Between School Personnel and Practicing Physicians and Dentists

The effectiveness of school health services, particularly of health appraisal and the follow-up of health problems, is directly related to the understanding and cooperation of the medical and dental practitioners of a community, for they alone can provide the necessary diagnosis and treatment. The trend toward having pupils obtain periodic examinations from their own physicians and dentists accentuates the need for helping these persons and school personnel to understand their respective fields of activity and the relationships that exist between them.

Cooperation of practicing physicians and dentists is generally improved when they have an appropriate part in formulating the policies and deciding upon the practices involved in the school health program and when they are kept informed as to the needs, objectives, and basic philosophy underlying school activities.

In instances where there has been no provision for cooperation between the school and private practitioners, school officials have sometimes felt that these persons were not interested in school health problems; and conversely, in these circumstances, practicing physicians and dentists have been inclined to feel that school officials were attempting to dictate the manner in which they should practice medicine and dentistry. Discussion of these differences almost always reveals that both groups have been mistaken in their assumptions and that all are working toward similar goals.

Basic to the development of proper relationships is the realization that the primary function of the school is education; that the school is not a health center or a diagnostic clinic. It is universally recognized that the school child's health is primarily the responsibility of the parent, and that the parent carries out this charge with the cooperation and assistance of the practicing physician and dentist.

Where there is cooperative policy making and widespread understanding of school objectives and procedures, friendly and mutually beneficial relationships between school personnel and private practitioners can usually be developed. Under such conditions each group recognizes the role of the other and respects the contribution it can make to child health. Written policies jointly agreed upon are a practical aid to developing satisfying relationships.

Practicing physicians and dentists in many states and local communities have exhibited real interest in helping schools develop programs of health services and health education. Studies conducted by the American Medical Association show that many physicians now serve on school health committees.[4] The biennial National Conferences on Physicians and Schools, attended by physicians representing state medical associations and delegates named by state health and education agencies, have demonstrated the willingness of the practicing physician to unite with others to devise effective ways for protecting and improving the health of school children.[5] Comparable conferences arranged at the state and local level can do much to increase understanding and cooperation. Such conferences have been conducted in many states and in many local communities. The school administrator or director of school health may appropriately take leadership in promoting periodic conferences of this nature.

In a number of states, through the leadership of the school health committee of the state medical society, the state department of education, or the state health department, meetings of local school officials with local medical societies and local health department representatives have been arranged. As a result, many problems of mutual interest have been solved and better understanding achieved. Also, the groundwork has been developed for future cooperative action.

Schools and Health Departments Join Forces

Two official agencies, the school and the health department, are vitally concerned with the health of children and youth. Their interest is both legal and moral in nature. A resolution of the Joint Committee on Health Problems in Education of the NEA-AMA, still as significant as at the time of its adoption, expresses the interests of these agencies and the need for their cooperation in these words:

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[4] American Medical Association. *Survey Reports of School Health Activities of State Medical Associations.* Chicago: Department of Health Education, American Medical Association. Published biennially, 1955-63.

[5] American Medical Association. *Physicians and Schools.* Reports of the Biennial Conferences. Chicago: the Association (alternate years), 1947-63.

> Education departments and health departments have important contributions to make to health services for children and youth of school age. Education departments have intimate knowledge of children as a result of daily contact and observation, and an understanding of the part health services play in the total educational experiences of each child. Health departments have accurate knowledge of the health problems and resources of the community as they affect children of all ages and their families. Both departments have personnel whose skills are needed in the solution of school health problems.[6]

In recent years certain developments have caused the paths of educational systems and health departments to run in parallel directions. Perhaps the most important of these developments is a change in educational philosophy. No longer does the school exist for the sole purpose of teaching specific facts; the present concept of education requires that the school concern itself with normal growth and development, measurement of aptitudes and capacities, and the relationships of physical and mental health.

With these broadening interests of education, there comes a realization of the importance of family and community influences upon child health. At the same time, health departments recognize that the school is concerned with most of the problems with which the departments are confronted. Thus, it becomes apparent that the health of the school child cannot be separated from the health status of the entire community in which he lives. School and health department personnel are increasingly aware that each has much to gain from closer working relationships with the other.

Fundamental to a successful school health service program is recognition of the importance of cooperative leadership from the health department and the department of education. Obviously, when both departments are aware of each other's programs and activities, they can more readily work together and complement and supplement each other's efforts.

Value of School Health Councils

A school health council, school health committee, or other type of advisory group affords opportunities for widespread discussion of school health problems and for the use of democratic procedures in establishing school health policies and responsibilities. Such groups may be organized on a state-wide basis, for a community school system, or for an individual school. They provide a means of developing interprofessional and interagency understanding and cooperation.

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[6] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. "Resolution on Administration of School Health Services." *Journal of Health and Physical Education* 19: 658; December 1948.

At the state level, a school health council can effectively integrate the leadership for school health services provided by state departments of health and education. A national committee that included representatives from state departments of education and health prepared the following suggestions for the organization and conduct of a state-level school health council:

> 1. The committee should be composed of representatives from the recognized health-serving professions and agencies. Laymen who represent the interests of the general public should also be included.
> 2. Each group should select its own representative. The committee should provide the machinery for selecting appropriate lay representatives.
> 3. The committee should meet on a regular schedule with well established agenda.
> 4. The committee should have appropriate officers and the necessary subcommittees for effective functioning.
> 5. There should be a policy statement to guide the committee which sets forth the scope and limitations of its functions.
> 6. It is appropriate for state departments of health and education, either jointly or singly, to encourage the organization of a school health committee. Neither of the departments, however, should seek to dominate its activities. In fact, the committee should be so organized as to assure that its actions will be independent of any kind of undue domination or influence.[7]

A community school health council that is concerned with all schools in a particular community should include representation from school and nonschool groups. School representation might include a teacher from each school, a school administrator, and one or more individuals from the school health staff. From nonschool groups, representation might be from parent organizations, medical and dental societies, the health department, voluntary health organizations, and community civic and service groups. The composition of the council may change from time to time as special individuals are invited to discuss problems in which they have particular competence or special interest.

The health committee of an individual school, while representative of the area it serves, will ordinarily not have as varied a representation as a community-wide council. It will be composed primarily of teachers, parents, and special health personnel serving the schools. At times various other persons will be invited to one or more meetings, including such individuals as a lunch room manager, a custodian, a psychologist, a counselor, a teacher of special education, the local health officer, or a representative of the local medical or dental society.

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[7] Council of Chief State School Officers, *op. cit.*, p. 45.

Throughout the country, school health councils have been organized for a variety of purposes and with vastly different organizational patterns. They have dealt with widely divergent problems—from mental health to school sanitation and from the health of bus drivers to the organization of instruction for speech correction. There is no need for standardization; each community should work on its own problems in the manner it thinks best.

A school health council alone may not be adequate for achieving the interest, understanding, and cooperation of all elements of the community. It is desirable and feasible for the school health council to become closely allied with an organization which represents community-wide interests, usually a community health council. The association commonly takes one of two forms. The school health council as a separate organization may be represented on the community health council, or the community health council may establish a subcommittee that gives attention to school health problems. At the moment there is no evidence to indicate that either of these arrangements is better than the other. Both have proved successful in communities throughout the country.

School and community councils are practical devices for achieving coordination of health activities. They point up the fact that many individuals within the school have responsibilities related to pupil health and also that many individuals and groups outside the school have interest and concern for the health of children and youth.

Although school health councils are generally desirable, they are not the only means of coordinating health efforts. The Report of the National Conference on Coordination of the School Health Program identifies five means of stimulating teamwork in school health activities. The distinction among these is not always clear-cut, but, in general, these approaches may be classified as (a) informal procedures, (b) the *ad hoc* problem-solving group, (c) the continuing committee or council, (d) the specialized advisory committee, and (e) combinations or adaptations of the foregoing.[8] Informal procedures are defined as those in which the person giving leadership to the school health program contacts each person having a stake in a particular problem. The titles of the other approaches are fairly descriptive; the details of their use are carefully described in the reference.

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[8] American Association for Health, Physical Education, and Recreation. *Teamwork in School Health.* Report of the National Conference on Coordination of the School Health Program. Washington, D. C.: the Association, a department of the National Education Association, 1962. 32 pp.

PERSONNEL FOR SCHOOL HEALTH SERVICES

Success of school health services depends to a great extent on the adequacy and competency of those who administer and conduct the program. Since every person associated with the schools influences the health of pupils in one way or another, the quality of school health services reflects in a way the quality of the entire school staff. However, the significant contributions of the director of the program and of physicians and nurses make it appropriate to consider the amount of service required from these persons and the qualifications they should meet.

The Director or Coordinator

The superintendent of schools in a small community often must serve as his own director of school health services. In a large community, however, it is desirable that he select an individual to serve as director or coordinator of an integrated school health program. This person should have a primary interest in health and health education and should have had sufficient specialized professional preparation in education and public health to enable him to provide leadership and direction to the total school health program. Prime requisites include an enthusiastic desire to protect and improve the health of children and youth and an ability to work with individuals having different professional backgrounds.

As stated by one writer, the school health director or coordinator should—

> 1. Work with teachers on a consultant basis in the improvement of instruction, development of the health curriculum, and other in-service education projects.
> 2. Cooperate with physicians, dentists, nurses and other specialized health personnel serving the school in the development of effective health services including appraisal procedures, emergency care, communicable disease control, and follow-up programs.
> 3. Work with the maintenance staff and others involved in trying to bring about the best possible environment for health in the school and its environs.
> 4. Cooperate with guidance personnel to assure effective health counseling and appropriate consideration of health factors in the overall counseling program.

5. Coordinate or conduct surveys and studies pertinent to the needs of the local program of health services for school-age children.[9]

The person responsible for directing a school health program must have ample time to devote to his duties and the active support of the administration. He will need to schedule conferences within the school and attend meetings of school and community health councils. Coordination and leadership activities require the expenditure of considerable amounts of time and energy, but they result in more effective and efficient programs.

Need for Special Health Personnel

As school health services are developed, the need for special personnel becomes evident. A physician is needed to advise regarding many health matters, including the care of emergencies and the control of communicable diseases. He will serve as a liaison between the schools and practicing physicians. In many schools he will examine certain pupils. He will be available for consultations with teachers and other school personnel regarding adaptation of the school program to the health condition of particular pupils. He may advise regarding procedures to protect and improve the health of school employees and of pupils participating in athletics. A nurse can help teachers gain understanding of the health problems of pupils and can counsel with pupils and their parents regarding health conditions needing attention. Dental health services may require that dentists and dental hygienists be employed. A psychologist, a social worker, and guidance personnel can make unique contributions to mental health services, and a nutritionist can assist in organizing and conducting the school lunch program.

Which of these workers is needed and how many of each are required is a question that must be answered by every school administrator and every director of school health. And it must be answered with due consideration to community resources, local finances, and the particular program that is desired.

The needed number of different types of special health personnel depends directly on the program to be conducted. Physician service, for example, depends partly on the number of pupils who receive periodic examinations from their own physicians and the frequency with which those not examined by their own physician are to be examined at school. One way of estimating the amount of physician service needed for this purpose is to estimate the number of health examinations to be made, including examinations to be made because of referrals from teacher or nurse, and to multiply this by 15 minutes, the average amount of time needed for an acceptable examination and subsequent counseling. To such an estimate should be added time needed for participation in other health service activities.

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[9] Hein, Fred V. "Teamwork Is Essential." *Ideas.* Roslyn, N. Y.: Nassau Tuberculosis, Heart and Public Health Association, 1956-57. Vol. 23, No. 3. pp. 1-2, 7-8.

Estimates of needed nursing service vary from one full-time nurse for 500 pupils to one for 2,000 or more. Reasons for these variations are differences in programs. In some instances, nurses give full time to school activities; in others they work on a generalized public health nursing program, giving part of their time to the schools and part to other nursing activities. Amounts of nursing service needed depend also on such factors as the division of responsibilities between teachers and nurses and the availability of dental hygienists, social workers, and health educators.

As with physicians and nurses, the need for dentists, dental hygienists, psychologists, social workers, and others will depend on the total program to be conducted and the duties to which they will be assigned.

Qualifications of Personnel

It is not sufficient to have an adequate number of special health personnel; best results are obtained only when such personnel are of high calibre and develop particular competence for their specific jobs.

Professional competence may be determined in part by requirements for state certification or state licensure. Such standards, however, are usually minimum in nature. They are standards to be met by all working in a particular area or particular profession.

In many instances, professional standards have been formulated by national professional groups. The American Public Health Association, for example, has published a statement on "Educational Qualifications of School Physicians." This lists the functions of "School Medical Advisers" and "Directors of School Health Services" and states that in addition to desirable personal qualities the latter will need the following special training and experience:

> . . . basic principles of public health including general philosophy of man's health protection, epidemiology, vital statistics, record systems and record keeping, environmental sanitation, principles of public health administration, principles of child growth and development, educational psychology, philosophy and principles of education, health education, education of the handicapped,

> mental hygiene, and school administration including organization and administration of school health programs.[10]

The report suggests that one calendar year of specialized study in an institution offering a graduate program in public health and in education is needed to meet the above qualifications.

Recommended qualifications for public health nurses have been prepared by the School Nurses Branch of the American Nurses Association.[11]

A pamphlet published by the National League for Nursing describes the role of the public health nurse in school health services, in health instruction, and in the school environment and comments as follows on her professional preparation:

> The role of the nurse in the school is to utilize, in collaboration with others, her knowledge and competence in nursing so that it contributes significantly to the achievement of the full health and educational potential of each student. Her ability to serve most adequately within the school setting is dependent upon basic preparation for professional nursing and additional preparation that will enable her to:
>
> 1. Utilize concepts of human growth, development, and behavior in the milieu of the school health program.
> 2. Recognize developmental and health needs of students, especially in relation to prevention, detection, and treatment, which must influence educational programming.
> 3. Utilize existing community services for children and youth and spearhead the development of additional services when indicated by the needs of the school health program.
> 4. Comprehend the nature of the educational setting in which the school nurse works.
> 5. Select and use processes appropriate to the roles assumed by the school nurse.[12]

Professional competence alone will not assure an effective program of school health services. Individuals engaged in these activities need to know how to work cooperatively with others. A sincere interest in children and a desire to assist in programs designed to bring to them the benefits of modern medicine and public health should motivate school health workers. All should be genuinely interested in the total school program and in helping to further it in every way possible. These factors deserve careful consideration when individuals to be engaged in school health services are being selected.

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[10] American Public Health Association, Committee on Professional Education. "Educational Qualifications of School Physicians." *American Journal of Public Health* 43: 75-82; January 1953.

[11] American Nurses Association, Public Health Nurses Section, School Nurses Branch. *Functions and Qualifications for School Nurses.* (Undated) 11 pp.

[12] National League for Nursing. *The Preparation and the Role of Nurses in School Health Programs—Guidelines for the Use of Administrators, Educators, and Students.* New York: the League, 1962. 30 pp.

Budget Considerations

Provision of adequate personnel necessitates securing funds for salaries. Remuneration for special health personnel should be comparable to that which they would receive for similar service in other agencies. It should be determined with consideration to the amount of their professional preparation, length of experience, and degree of responsibility. Adequate salaries help to attract competent professional workers.

More than staff salaries come into the budget picture. Fees for consultants may be needed. Clerical assistance will be necessary. Funds will be needed for printed forms, e.g., cumulative health records, parent consent slips, and referral blanks; for first aid supplies; and for equipment to be used for vision and hearing testing and other screening tests. The budget should include funds for furnishing the health room with needed equipment and with facilities for temporary rest and isolation of ill students and school personnel. Provision should also be made for expenses involved in attending conferences, for materials to be used in in-service staff education, and for transportation expenses. The budget should also allow for adequate retirement and sick-leave benefits.

STAFF EDUCATION

In recent years school administrators and directors of school health have encouraged in-service programs of education as an effective means of helping those engaged in school health activities improve their understandings, skills, and competencies in the teaching and guidance of pupils. In these programs, teachers, administrators, and special health personnel have the opportunity to plan cooperatively, to evaluate the results of their efforts, and to devise ways for improving their services to students. Certainly some provision for in-service education is imperative if those engaged in school health services are to keep up to date on modern trends in education, medicine, and public health.

Helping Teachers

In-service education of teachers takes place in many ways, some formal and some informal. It takes place through organized and informal conferences of teachers and special health personnel. Bulletins, announcements, statements of policy, and similar materials may be used. Health problems may be discussed at staff meetings or in conjunction with parent-teacher meetings. Interesting books or articles in periodicals may be circulated. Teachers may be encouraged to attend health courses at colleges or universities during summer vacations or at other times. In many communities, workshops have been successful in bringing to teachers increased understanding of health problems and of the role of the school in promoting health.

In the Glencoe, Illinois, schools, continuing efforts are made through cooperative in-service activities to integrate health education and health services into the daily living of pupils and to help teachers recognize the many opportunities that arise for becoming familiar with the health conditions of pupils and for the development of desirable attitudes and practices. Teachers and special health personnel have developed mimeographed materials that outline teacher opportunities for health activities at different grade levels.

Teachers from the West Hartford, Connecticut, schools participated in a series of evening lectures and discussions on health offered locally by a staff member of a nearby college. Numerous health problems were considered from the point of view of ways by which schools could aid in their solution.

Self-evaluation of the school health program in a particular community can be a fine in-service education experience for those who participate, while at the same time revealing the strengths and weaknesses of the program. The Lincoln, Nebraska, school system and the Evanston, Illinois, Township High School have recently been involved in such self-studies. These evaluations culminated in recommendations for improvement of the school health program and involved in one way or another virtually all of the teachers, a great number of pupils, and many people from the community.

In Ohio, county workshops have been conducted for all employees, including teaching, custodial, and lunch room staffs. Numerous problems of health and sanitation were considered. Among the participating agencies were Ohio State University, Extension Service, state health department, the county school system, and local health units.

Workshops related to health and health education are available to teachers each year in almost every state.

Aiding Special Health Personnel

In-service education is as important for special health personnel as it is for teachers. In many large communities regular staff meetings of physicians, nurses, and other special health personnel are held. At times, an invited speaker may be asked to discuss a selected subject.

As an aid in developing teamwork, meetings of administrators, teachers, and special health personnel may be arranged. Such joint meetings conducted in the Great Neck, New York, schools were used to consider the relative role of teachers, nurses, and physicians in the care of emergencies and in the exclusion and readmission of pupils with a communicable disease.

In the uncertain and confused world in which children and youth are living and in which they must undoubtedly continue to live, good health is an indispensable possession. Certainly, the school administrator faces no greater challenge than to exercise the kind of leadership that will provide future citizens with this priceless possession. His leadership is shown by the degree to which he infuses into his staff a real concern for health, by his ability to secure staff members of high calibre, by his efforts to coordinate school and community health efforts, and by his encouragement of measures designed to help staff members improve their procedures.

FOR FURTHER READING

AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION. *Current Administrative Problems.* Committee Report. Washington, D. C.: the Association, a department of the National Education Association, 1960. 197 pp.

AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION. *Teamwork in School Health.* Report of the National Conference on Coordination of the School Health Program. Washington, D. C.: the Association, a department of the National Education Association, 1962. 32 pp.

AMERICAN MEDICAL ASSOCIATION. *Physicians and Schools.* Reports of the Biennial Conferences, 1947-63. Chicago: the Association (alternate years), 1947-63.

AMERICAN MEDICAL ASSOCIATION. *Survey Reports of School Health Activities of State Medical Associations.* Chicago: Department of Health Education, American Medical Association. Published biennially, 1955-63.

CHIEF SCHOOL ADMINISTRATORS CONFERENCE REPORT. *Education for Health.* Roslyn, N. Y.: Nassau Tuberculosis, Heart and Public Health Association, 1962. 40 pp.

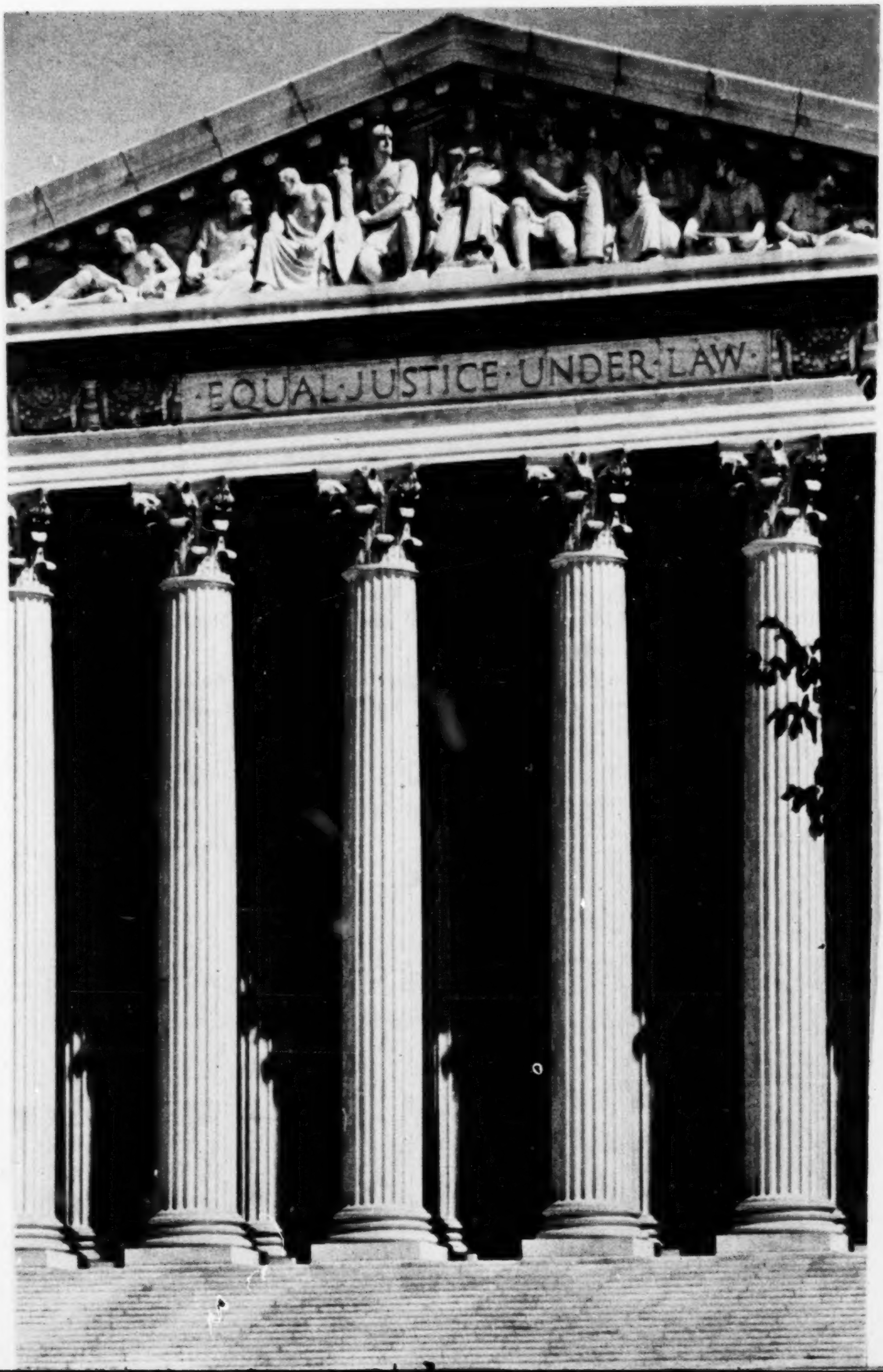
CONNECTICUT STATE DEPARTMENT OF EDUCATION AND CONNECTICUT STATE DEPARTMENT OF HEALTH. *Suggestions for the Nurse in the School Health Program.* Hartford: the Departments, 1962. 80 pp.

COUNCIL OF CHIEF STATE SCHOOL OFFICERS AND THE ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS. *Responsibilities of State Departments of Education and Health for School Health Services.* Revised edition. Washington, D. C.: the Council, 1959. 52 pp.

JOURNAL OF HEALTH, PHYSICAL EDUCATION, AND RECREATION. "How Schools and Voluntary Agencies Can Work Together To Improve School Health Programs." *Journal of Health, Physical Education, and Recreation* 26: 35-36; October 1955.

NATIONAL COMMITTEE ON SCHOOL HEALTH POLICIES. *Suggested School Health Policies.* Fourth edition. Washington, D. C. and Chicago: National Education Association and American Medical Association, 1964.

NATIONAL LEAGUE FOR NURSING. *The Preparation and the Role of Nurses in School Health Programs.* New York: the League, 1962. 30 pp.


EQUAL·JUSTICE·UNDER·LAW·

Chapter **16**

Legal and Legislative Factors

School health services in every state are influenced by state statutes, permissive or mandatory, and by the judicial interpretation of the meaning and intent of such statutes. State statutes vary widely. Some are general and others specific; some deal with all aspects of school health while others are concerned only with one particular part of the program.

The absence of specific laws does not mean that school health procedures are illegal or extralegal. Legislatures frequently delegate authority to state and local departments of education and of health and expect these agencies to develop regulations, policies, and procedures dictated by circumstances and conditions and in keeping with expert professional opinion.

This chapter does not enumerate the details of statutory provisions from state to state. Instead, it describes prevailing types of legislation with judicial interpretations of such statutes where the courts have clarified issues or raised questions. This approach will be applied to such topics as health examinations, the control of communicable diseases, the identification and education of handicapped pupils, health standards for school personnel, and school sanitation.

HEALTH EXAMINATIONS, HEALTH RECORDS, AND TREATMENT

State statutes have a bearing on health examinations and the follow-up of health problems that are discovered. They often specify the frequency and extent of medical examinations, and they usually limit treatment to first aid measures. Sometimes they prescribe the nature of records and reports that shall be used or kept.

Health Examinations

The first law requiring periodic health examinations for public school pupils was enacted in Connecticut in 1899. Since that time the practice has been extended until today every state has legislation permitting or requiring examinations of one kind or another either at the time of entrance to school or periodically throughout a pupil's school career. The variation in these laws is great, possibly greater than in actual practices.

The meeting of prescribed health standards is required by some school systems. Statutes on this point are general, usually authorizing the exclusion of pupils found to be physically or mentally unfit for school attendance. The courts have held that a local school board may require a report of a medical examination by a family physician, a school physician, or a health officer. A school board may exclude pupils having defects that would endanger other pupils or impede the educational progress of an afflicted child. For example, a rule excluding pupils suffering from trachoma, unless they are under treatment, has been upheld.[1]

Many states make medical examinations of pupils mandatory, but others leave the matter to local discretion, merely granting permission to carry on the activity and to use school funds for the purpose. There are legal advantages and disadvantages in both kinds of laws. When the statute is detailed and mandatory, it may set up a program that many local districts cannot afford or one for which they cannot obtain necessary personnel. When the statute is permissive, some districts may not implement it for one reason or another.

Although statutes specifically providing for medical examinations preliminary to school enrollment are rare or very general, rather detailed statutes requiring or authorizing medical examinations after enrollment exist in most states.

Some states provide only for "referral examinations"; that is, the school may engage a physician to examine pupils sent to him because of suspected illness or physical defect. Under such a law, possibly all pupils could be "referred" if a local school board were interested in extending the program to that extent. Such legislation, however, is not generally considered an adequate substitute for periodic examinations for all pupils, since its implementation could result in the examination of relatively few pupils.

A medical examination is required by law for specific purposes in a few states. For example, it may be a prerequisite to obtaining a work permit, to participating in certain types of physical education, or to membership in classes for the physically handicapped.

Some statutes require or authorize health examinations with no designation of the type of examination that is required. Most state laws require sight and hearing tests, sometimes without reference to more complete examinations. A few state codes enumerate a long list of defects which, if present, will be identified by examinations. A number require or authorize examinations for any "function or condition of health tending to prevent any pupil from receiving the full benefit of school work."

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[1] Martin vs. Craig, 173 N.W. 787 (North Dakota, 1919).

The practical influence of these distinctions is unknown. If tested judicially, one court might hold that the enumeration of specific items excludes others not included in the enumeration; other courts might hold that the items in the enumeration set a minimum only. Thus the extent to which the medical examination is described may be immaterial, or it may be the means of restricting the type of examination that can be made legally.

Some states in which there are mandatory laws require that medical examinations be given annually; others require or authorize examinations once in each two- or three-year period; still others specify no time interval, authorizing examinations as often as seems necessary. When a law prescribes that an examination be given annually, it must be given at least once a year, but it could be given more frequently in special cases. If a law authorizes an examination at least once in each two- or three-year period, it could be given annually.

Employment of Physicians and Other Health Workers

Laws differ among the states with regard to the person who is to examine school pupils. Most states authorize the employment of school physicians for the purpose, but some grant this authority only in school districts of a designated size. However, the courts have held that even without statutory authority the employment of physicians is legal in view of the school board's authority to provide medical examinations for pupils.

In some states the law specifies that the health officer shall examine public school pupils; in other states, a city or county school board may enter into contract with the health department for services needed instead of employing its own health personnel. Where the law specifies that the health officer shall examine pupils, school boards probably could not employ school physicians without specific authorization.

School administrators usually accept reports of examinations from a family physician in lieu of examinations by a school physician or health officer. With today's trend strongly in the direction of having all examinations made by a personal physician in the privacy of his office, this procedure is appropriate and desirable.

Health Records

With the exception of a few states where statutory provisions for medical examinations are unusually brief, the prevailing procedure is that the results of medical examinations are recorded and kept on file in the school office. Some statutes require the state board of education and the state board of health to prepare jointly forms to be used as cumulative health records, such records to accompany a pupil when he moves from one school to another or from one town to another. No law includes the details of such a record form.

Health records often contain information of a highly confidential nature. To guard against the possibility of a suit for libel, these records should be kept in locked files, available only to nurse, doctor, or specific persons having a direct interest in a particular student, such as a teacher. This information may be revealed only to a person having a similar interest, i.e., to another teacher, another school system, or a parent. If care is exercised, this type of communication falls under a quasi privilege. Teachers and others who work with records are not entitled to privilege status unless they are communicating credible information in good faith to a person who has a corresponding interest or duty.

Treatment

Laws make a distinction between medical examination and medical treatment. Few states have enacted legislation even purporting to authorize medical treatment for pupils. When the courts hold that school districts cannot furnish medical care to their pupils even though their families are unable to finance such needed care, they follow the traditional legal principle of relating functions to purposes. The schools are established for the purpose of education, not to substitute for hospital or medical treatment.

A few states authorize the public schools to maintain dental clinics, but clinics for the treatment of general physical defects and ailments are not authorized. All medical treatment, even the administration of such a simple remedy as aspirin, is considered outside the scope and province of school authorities.

Most laws on medical examinations prescribe that a report shall be made by the school or health authorities to the parents or guardians of pupils. The contents of this report may be an important factor in the public relations of the school, as well as the health progress of the child. Obviously, if the school or health department physician recommends correction of a remediable defect, there is a good possibility that the family will follow his suggestion. On the other hand, a parent or family physician may not always welcome advice from one not familiar with the child's health history or the family's condition. As indicated in a previous chapter, health counseling is considered the best procedure for helping parents with the health problems of their offspring. Conversely, an impersonal, printed report is the least effective even though it complies with the law. (See Chapter 6, "Health Counseling.")

Some laws recognize that parents have preferences as to the type of medical treatment they want for their children. For example, a state statute may provide that school personnel shall ask the parent to obtain remedial care for a pupil, but it may not include any recommendation or suggestion relating to a particular individual or type of practitioner. In another state, however, the law may provide that the school physician give parents such advice or orders as he deems advisable, and the parent "shall cause such child to be treated."

Care of Emergency Sickness and Injury

Despite the restraints placed on school personnel in providing medical treatment, teachers, nurses, and physicians are permitted and expected to render first aid to injured or sick pupils. However, emergency care beyond first aid is not authorized for school personnel, and where assistance to a pupil may be inherently dangerous to the health of the pupil there are legal risks. When given by a teacher, first aid is a matter of common law principle, not of statutory provision; and the rules may differ from state to state or be vague or uncertain in some states. It is nevertheless the general rule that if a teacher goes beyond first aid and attempts medical treatment and leaves the pupil in worse condition, he is subject to action in the courts for damages for any injury he has caused by his negligence. On the other hand, when a pupil is ill or injured, a teacher who neglects to give necessary first aid may be held criminally negligent. Teachers have a legal responsibility to provide first aid for pupils in cases of emergency, but they should be cognizant of the difference between first aid treatment and the types of medical treatment which can be safely provided only by physicians. (See Chapter 11, "Caring for Emergency Sickness or Injury.")

CONTROL OF COMMUNICABLE DISEASES

Many of the procedures used to prevent the spread of communicable diseases are prescribed by law or by regulations of the department of health which have the same effect as law. Such laws and regulations may relate to the exclusion of sick pupils, the return of pupils to school following sickness, and requirements relating to vaccination and immunization. It is important for teachers and other school personnel to be aware of local regulations for the control of communicable disease.

Exclusion and Readmission

In general, state laws require teachers to send home a pupil who is suspected of having a communicable disease or of having been exposed to a serious communicable disease. Usually state statutes are supplemented by health department regulations specifying the particular action to be taken in regard to different diseases.

The readmission to school of pupils having had a communicable disease is also governed by health department regulations. The procedure varies with the nature of the disease, its communicability, and its seriousness. Sometimes laboratory tests must be conducted to determine if a pupil may be readmitted. In some instances pupils may be admitted on the basis of a certificate from a physician; in other instances a pupil may be admitted by the teacher, principal, or nurse, if he appears well.

The development and implementation of measures to combat communicable diseases are responsibilities of the health officer, by state statute; but they require cooperation from practicing physicians, schools, and others. Public health laws give health officers discretionary power to close all public places. School laws of practically every state empower school boards to close the schools in the event of an epidemic. School administrators and health officers should cooperate in the interest of the greatest possible protection for children and others in the community.

What may appear to be overlapping statutory power resolves itself into two distinct powers. The school board may at its discretion close a school without an order from the health officer, but *must* close the school when so ordered by the health official. The actual order to school personnel is issued by the school board, as the body responsible for administration of the schools. (See Chapter 10, "Communicable Disease Control.")

Vaccination Requirements

Many school systems require smallpox vaccination as a prerequisite for school enrollment, but this practice is not universal. In some states legislation authorizes local districts to make the requirement; in other states the authority granted by the legislature is only for use by the public health officer when smallpox exists. Few states have a state-wide mandatory smallpox vaccination requirement generally applicable regardless of the threat of an epidemic.

It has generally been held that smallpox vaccination can be legally required. No recent court decision has held otherwise. In older cases, however, distinctions were made between vaccination with or without an emergency situation. Under some laws a strict interpretation led the courts to hold that there was authority to require vaccination only when smallpox existed in the community or there was some threat of an epidemic.

Questions have arisen as to the power of a school board to require smallpox vaccination before admission to school when the legislature has delegated authority for the control of communicable diseases to health officers. Also, there are questions as to the power of public health officers to make a requirement concerning *admission* to the public schools—a state function delegated to local public-school officers. In such cases the courts have usually looked beyond the mere instrument of officialdom and sanctioned rules made by the one agency and accepted by the other. For the most part, legislatures have entrusted public health officers with discretionary power to determine when smallpox vaccination should be required for all the inhabitants of the state or locality, or any segment of the population based upon a reasonable classification. At the same time, school officers have authority to determine reasonable standards for admission to the public schools over and above the minimum standards fixed by the legislature.

Parents sometimes object to having their children vaccinated against smallpox because of religious beliefs. Statutes of some states provide that if parents object, the child may be admitted without vaccination so long as no epidemic threatens, but he will be excluded from school in event of danger. In other states the laws make no such exception; and the courts have generally held that religious beliefs must give way to the requirement, especially if the welfare of the entire population is at stake in a threatened epidemic.

Many laws and regulations provide that an individual child may be exempted from the vaccination requirement if, in his case, vaccination would endanger his health. Proof of such a fact must be provided by the family physician or the school physician, and the exemption is usually for a limited period of time only.

In addition to smallpox, such diseases as diphtheria, tetanus, whooping cough, and polio can be prevented by immunization. Education is usually preferred to legislation in encouraging parents to have their children protected from these diseases. Some states and local communities, however, have enacted laws or adopted regulations requiring pupils to be immunized against polio. It is likely that such action will be ruled comparable to requirements relating to smallpox vaccination.

Legislation requiring immunization at school entrance sometimes results in parental delay in obtaining protection for their children until that time. This is unfortunate, for protection against preventable diseases is most needed during infancy and the preschool years when death from these diseases is most likely.

EDUCATION FOR EXCEPTIONAL CHILDREN

Every state has a compulsory education law, requiring attendance or equivalent instruction for all children between designated ages. Physically and mentally handicapped children, often referred to as exceptional children, may need special instructional services. Often they benefit from being enrolled in school earlier than the age designated for other children.

Discovering Pupils Needing Special Education

One of the problems of providing education for the handicapped is in finding such children. Every state requires a census of school-aged children, although in some states this census is not taken frequently. School census statutes usually provide for the reporting of children with physical or mental handicaps. The totally blind and deaf and the seriously crippled can be discovered by the lay persons taking the census. However, children with defects of a more limited degree are not so easily identified. Almost all the states provide by law, therefore, that physical examinations shall be given to discover children needing special education, but in many of these states the tests are only for sight and hearing.

General Provisions for Exceptional Children

Special education is given in state residential schools, by home instruction, or by special instructional services in the regular public schools. Two-thirds of the states have authorized special education in the public schools and stimulate such programs through financial aid and consultation services provided by the state department of education. Every state has a law providing for state residential schools for the blind and deaf, or for state payment of the costs when these handicapped children are assigned to private schools devoted to children with these defects.

Schools in hospitals are authorized in some states, but these hospital schools are frequently under the department of welfare or public health. Administration of other state residential schools is coming more and more under the control of state departments of education, whereas many of them were formerly under departments of welfare.

Classes for the Handicapped

A number of states provide that when parents of a designated number of physically handicapped children of the same type or of types that may be educated together petition the local school board for a special education class, the school must establish such a class. Usually the state board of education provides financial aid dependent upon compliance with standards relating to the course of study, pupil-teacher ratio, methods of instruction, qualification of teachers and their in-service education, and necessary equipment.

Aid to Crippled Children

The Social Security Act of 1935 authorizes the appropriation of federal funds to help the states "extend and improve . . . services for locating crippled children and for providing medical, surgical, corrective, and other services and care, and facilities for diagnosis, hospitalization, and after-care for children who are crippled or who are suffering from conditions which lead to crippling." The federal grants go to state crippled children's agencies, not to parents, guardians, or the children themselves.

The federal law defines crippled children so broadly that all major handicapping conditions may be served if a state wishes to do so. Each state decides the types of handicapping conditions to be helped by the state program, subject to standards fixed in the federal legislation. All states now attempt to meet the needs of all who are under age 21 and who have some kind of handicap requiring orthopedic or surgical care, including children with harelip, cleft palates, club feet, deformed bones, and those who have been seriously burned or badly hurt in an accident. All states also have laws providing various types of aid for children with paralytic polio and those with bone and joint tuberculosis. About half the states include children with rheumatic fever and cardiac conditions; many help those with cerebral palsy; a few include children with epilepsy, arthritis, congenital syphilis, and those with vision or hearing defects.

HEALTH STANDARDS FOR SCHOOL PERSONNEL

Recent years have seen considerable growth in state law and local rules requiring medical examinations for school personnel. Most teachers and other persons agree that the teachers and other personnel who come in contact with children should possess good physical and emotional health. They recognize that school boards have the responsibility for employing personnel who are healthy and for doing what can be done to protect and promote the health of personnel.

A number of states which give boards of education statutory authority for the employment of a physician mention that a part of his duties shall be the inspection of school personnel. Several states which define qualifications for teachers include physical competence. States delegating authority to the state board of education for establishing standards for teachers' certificates leave the state board with discretion to require a health report that may be general or applicable only to freedom from communicable disease.

Local School Board Authority

State statutes usually include no requirements with respect to the health of the school staff, except with regard to communicable diseases, other than to authorize the school physician to examine employees when he considers it wise. Most of the laws are general in nature. The power of a local school board to make health requirements for its employees cannot be questioned, regardless of state standards. Thus in a state where no statute refers to health examinations for school personnel and the state board of education has no health examination requirement, local school boards can make their own rules, provided only that the rules are reasonable and germane to the school situation. In a state where a minimum requirement is made by statute or by state board regulation, local school boards may add to those minimum standards. This power relates to both the teaching and nonteaching staffs.

Objections on religious grounds have no standing unless an exemption is made by statute. An employee has the choice of complying with the health rules, state or local, or seeking employment elsewhere. He is not denied any constitutional right because of conflict between the board rule and his religious belief, since he has no *right* to public school employment.

Tuberculosis Tests

Statutes of a number of states require teachers and other school employees to file evidence showing that they are free from tuberculosis. The evidence may be a report showing that a tuberculin test gave negative results or that a chest x-ray showed no signs of active disease. Several states have gone farther and require also that the state board of health shall examine the sputum of school personnel under certain conditions.

One of the more detailed statutory provisions relating to tuberculosis was enacted in Massachusetts in 1950 and revised in 1958. The statute reads, in part:

> No person known to be suffering from tuberculosis in a communicable form, or having evidence or symptoms thereof, shall be employed or continued in employment at any school in the commonwealth, including any college or university, in any capacity which might bring him into direct contact with any student at such school.
>
> Immediately prior to his entering into any such employment, and at least every three years during the course of his employment thereafter, each school superintendent, principal, director, teacher, food handler, janitor, school bus driver, nurse, doctor or other person whose duties bring him into such direct contact, shall file with the superintendent or other person having charge of such school, on forms furnished by the department of public health and approved by the department of education, a report, made by a registered physician, relative to his freedom from tuberculosis in a communicable form, and such report shall be kept as a part of the records of such school authorities. Such report shall be accompanied by an x-ray of such person's chest taken not more than ninety days prior thereto, or by the results of an intradermal tuberculin test taken not more than ninety days prior thereto and by the results of such other laboratory tests and clinical examinations as may be essential to a diagnosis of tuberculosis in a communicable form. If the results of the intradermal tuberculin test were positive, then this report shall be accompanied by an x-ray of such person's chest taken not more than ninety days prior thereto. All x-ray films shall be submitted for review to the department of public health or to the county or municipal tuberculosis sanatorium of the district or municipality in which such school is located, and where the x-ray so submitted is for any reason not satisfactory, an x-ray of the employee's chest shall be made by said department or such sanitorium.
>
> Such reports and x-rays or intradermal tuberculin tests shall be required at least every three years from all school employees other than substitute teachers or employees who do not work more than thirty calendar days in any

school year; provided, that such re-examination shall not be required within three years of any previous examination for any school employee who may transfer within the commonwealth.[3]

Widespread efforts to detect tuberculosis in school employees reveals recognition of the seriousness of this disease and the possibility of its spread through school contacts.

SCHOOL SANITATION

For many years legislatures have included in school law the powers and duties of local and county school officers to require that each school be provided with adequate toilet facilities. In some states the code relates to no other matter even though the provision of a healthful environment requires attention to numerous aspects of sanitation.

Supervisory Role of State Boards of Education

In recent years, under general or specific statutes, state boards of education have been given certain supervisory responsibilities over school construction in about half of the states. State boards consult with local districts in regard to standards for school construction and maintenance.

State board regulations often contain provisions for promoting building sanitation and otherwise protecting the health of pupils. Most statutes authorizing the employment of a school physician charge that person with responsibility for the sanitary inspection of school buildings when he deems it necessary. Some states prescribe that school buildings are subject to the state sanitary or health code, state school building code, and state and local plumbing regulations or ordinances. Public health laws in many states authorize health officers to inspect schools from the point of view of their sanitation.

Cooperation Is Needed

Most states do not include details of school building sanitation in their statutes. The sanitary facilities in new buildings may be prescribed by school building regulations, but efforts to improve the sanitation of old buildings require leadership and knowledge that challenge the efforts of both school administrators and health personnel.

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[3] State of Massachusetts. "An Act Providing That, in Determining Freedom From Tuberculosis of Persons Employed in Schools, A Chest X-ray May Be Omitted if an Intradermal Test Is Negative." *General Laws*, Chapter 71, Section 55B (as amended by Chapter 15, Acts of 1958.)

Each school administrator should aim to provide the safest and best sanitary conditions in every school building under his jurisdiction. He may not be familiar with desirable standards for environmental sanitation, but he can get information about them from his local or state health department. School administrators and health officers working together can accomplish much in improving school sanitation.

SOME PROFESSIONAL AND SOCIAL IMPLICATIONS

The preceding comments on the extent of statutes and the interpretations placed upon laws by the courts have brought out a number of professional and social questions. It is not possible to deal here with all of the implications, but some will be considered and related to prevailing educational philosophy.

To Have or Not To Have

One problem before the profession is the extent to which health education and health services need to be covered by legislation. In general, educational theory favors a fairly broad coverage of law with emphasis upon basic principles rather than detailed prescription. Certainly the local board of education needs to have the authority to outline the basic program, to require pupil attendance and conformity within minimum limits necessary for the common good, to employ the special personnel needed to make the school program effective, to engage in cooperative relationships with boards of health, and to obtain the funds required to carry out an adequate school health program.

Mandatory Versus Permissive Laws

Today, laws on school health services are permissive in some states and mandatory in other states. The difference probably grows out of variations in the traditions of the people of the states, varying legal theory on the effect of prescription upon the people, and the presence or absence of enforcement agencies.

Most educators would prefer permissive legislation if all individuals and school districts availed themselves of the wisdom contained in such legislation. Unfortunately, however, even for minimum standards, there usually must be some degree of mandatory requirement. Unless state departments of education have the power to exercise the necessary supervision, local school boards can neglect areas of the curriculum. Sometimes the possible loss of state aid or disapproval of a high school is necessary to maintain the essentials of the school health program.

Generally speaking, school health legislation is, or should be, specifically mandatory with respect to enforcement of standards for protection against disease, to rules designed to promote safety and prevent physical impairment, and to standards necessary to provide sanitary conditions.

School Law and Health Law

There exists some confusion on whether certain standards and requirements should be set forth in the school code or in health laws. Probably it will never be possible to draw a fine, clear line of delineation of functions between the two. Good public service will, therefore, ultimately depend upon the maximum of cooperation between school officials and public health officials.

At the same time it seems entirely possible to have certain areas clarified. Specific prescriptions on health education and other health activities of the schools should be set forth in the education laws. Health education is a responsibility of the school. On the other hand, it seems wise that matters of communicable disease control and the establishment of standards for sanitation be set forth in health law. Health departments have personnel with special qualifications in these areas.

Both education departments and health departments have interest and concern in many school health procedures. Legislation should recognize this fact and be formulated in a manner to encourage cooperation between them.

Success in improving school health programs is not limited by legislation and regulation. As so well stated in a booklet relating to cooperation between health and education departments, ". . . although statutes, ordinances and regulations are necessary to define minimum standards for school health and although legal enforcement must occasionally follow violations in extreme cases, chief reliance for effective programs of school health services cannot rest merely on legal provisions and their enforcement. The keynotes are co-operation, leadership and the united will to exceed all legally required minimum standards."[3]

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[3] Council of Chief State School Officers and Association of State and Territorial Health Officers. *Responsibilities of State Departments of Education and Health for School Health Services.* Revised edition. Washington, D. C.: the Council, 1959. p. 2.

Professional Responsibilities

Those concerned with the health of children and youth should become familiar with the laws of their state and the influence law exerts on school health services. If laws permit the organization and conduct of a comprehensive school health program, no change is needed. If, on the other hand, laws hinder or discourage desirable activities, efforts should be made to have them rewritten. This can be done through the unified efforts of those concerned with health and education working cooperatively with forward-looking legislators.

Laws are made to serve people. All engaged in education and public health have a responsibility to see that laws and regulations relating to school health serve the best interests of children.

FOR FURTHER READING

Drury, Robert L., editor-in-chief. *Law and the School Superintendent.* Cincinnati: W. H. Anderson Co., 1958. 339 pp.

Edwards, Newton. *The Courts and the Public Schools.* Revised edition. Chicago: University of Chicago Press, 1955. 622 pp.

Garber, Lee O. *The Handbook of School Law.* New London, Conn.: A. C. Croft Publications, 1954. 165 pp.

Gaurke, Warren E. *Legal and Ethical Responsibilities of School Personnel.* Englewood Cliffs, N. J.: Prentice-Hall, 1959. 302 pp.

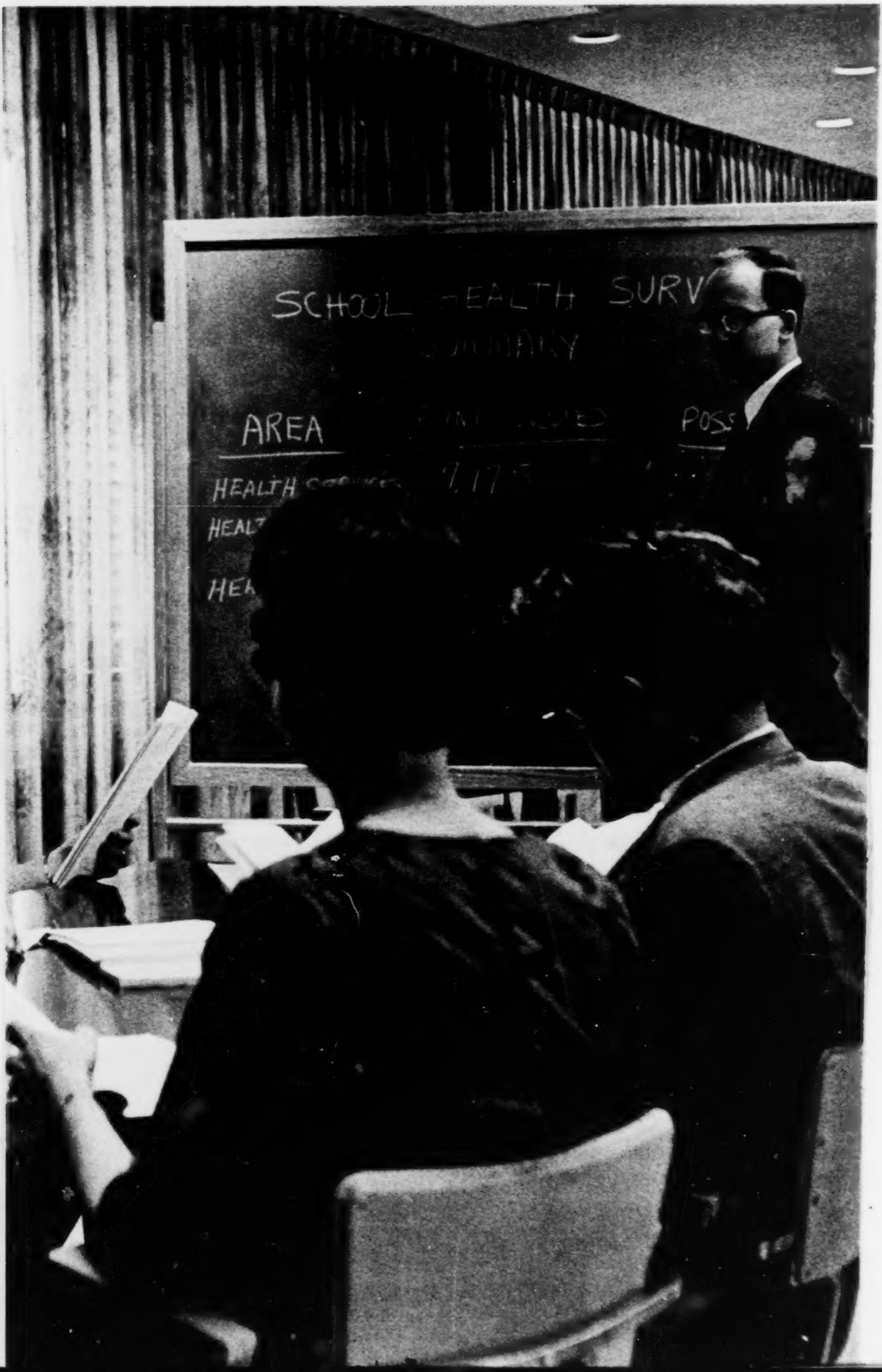
Kigin, Denis J. *Teacher Liability in School-Shop Accidents.* Ann Arbor, Mich.: Prakken Publications, 1963. 128 pp.

National Education Association, Research Division. *Who Is Liable for Pupil Injuries?* Prepared for the National Commission on Safety Education, a department of the National Education Association. Washington, D. C.: the Association, 1950. 25 pp.

Remmlein, Madaline Kinter. *The Law of Public School Administration.* New York: McGraw-Hill Book Co., 1939. 414 pp.

Remmlein, Madaline Kinter. *School Law.* New York: McGraw-Hill Book Co., 1950. 376 pp.

Seitz, Reynold C. *Law and the School Principal.* Cincinnati: W. H. Anderson Co., 1961. 266 pp.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Chapter **17**

Evaluation of School Health Services

Are the objectives of the school health service program bein achieved? How well does the program compare with recommende practices in procedures and personnel? Is the best possible us being made of available school health personnel? Are parents pupils, teachers, administrators, and members of the medical dental, and public health professions aware of the purposes of th program? Are boys and girls being helped to grow in knowledg of ways to protect and promote their health? Answers to thes and similar questions may result from an evaluation of the schoo health service program. Evaluation, as important a part of th total program as vision testing or medical examination, is basi to the maintenance of efficient school health services and to intelligent modification of procedures to meet changing needs.

Various techniques of evaluation are available. They include measuring the attainment of established objectives, comparing procedures with recommended practices, and using statistics, surveys, and the subjective judgment of experts. Any one of these techniques or a combination of them may be useful in varying circumstances. Evaluation procedures are aimed at answering the questions, "Is our program worthwhile?" and "How well are we carrying it out?"

ATTAINMENT OF OBJECTIVES

Measurement of improvement in pupil health as a result of school health services is difficult. Mortality data often cannot be related directly to a school population because school areas may not coincide with those used in the collection of vital statistics. Health in the optimal sense is not at present measurable, at least not without undertaking special and extensive study. Even if health could be measured easily, it is likely that such factors as the availability of medical and dental services and the socioeconomic status of a community would exert more influence on the health status of children than the school program.

Despite the above limitations, it is desirable to evaluate school health services in terms of their contribution to total health. More specifically, it is possible to check the extent to which predetermined objectives are achieved. This approach is applicable to all aspects of the program.

In health appraisal and counseling, for example, specific objectives include the following: (a) to identify pupils in need of professional attention, (b) to encourage parents of such pupils to secure the best professional care available in their community, and (c) to make all contacts with pupils and parents experiences that will have desirable educational outcomes. The achievement of these objectives can be measured by a continuing self-scrutiny which should be an integral part of the school program. Answers to the following questions are necessary: (a) Are pupils who need professional attention being found? (b) Are pupils who are referred for professional attention receiving it? (c) What do pupils and parents learn about health as a result of health appraisal and counseling?

Are Pupils Who Need Professional Attention Being Found?

Two methods for securing an answer to this question are suggested. The first method consists of comparing the results of health appraisal with data on school health records. If a condition is discovered which was obviously present before the current examination was made, the question of whether the condition could have been discovered earlier can often be answered affirmatively or negatively, and an explanation sought if the answer is in the affirmative. A medical examination upon entrance to high school, for example, may disclose a pupil with established rheumatic heart disease which the school knew nothing about. Investigation may reveal that the pupil had had two attacks of rheumatic fever in the course of his school attendance, but this information was not contained on his health card. It is fair to state that somehow the school should have learned of the condition sooner. Further investigation may disclose the reason for such an oversight and suggest means for preventing another.

This same method may be applied in a different manner. Health appraisal of one group of children, for example, one grade, may be designed to include a value judgment as to whether defects found could have been discovered earlier and if so in what way. To secure valid results from such a study, the following conditions must be observed:

1. The school health records must be complete and accurate.
2. If only a sample of the school is studied, it must be representative of the whole so that unsound generalizations may be avoided.
3. The appraisal must be as definitive and thorough as possible.
4. The conditions found must be expressed in medically acceptable terms and substantiated by clinically acceptable criteria. This will usually require further diagnostic study than is afforded by regular school procedures.
5. When adverse conditions are found, they may be grouped into the following categories according to agreed-upon criteria:
   a. Already known to school
   b. Unknown to school but could have been discovered sooner
   c. Unknown to school but unable to decide whether earlier discovery was possible.

The second suggested method of answering the question is by an analysis of children seeking medical attention from practicing physicians and community agencies on the initiative of their parents rather than because of referral by school personnel. If such children are found to have signs and symptoms of long duration, the same questions that were posed previously should be raised and answered.

For example, a child is reported by his physician to have a degenerative condition of the top part of the thigh bone. The child states that he limped for several weeks before seeking medical attention. It is fair to assume that the limp should have been noted by an alert teacher. Discussion of the case, and of the role of teacher as observer, may make it possible to mend a weak link in the school health services.

The cooperation of practicing physicians is needed to conduct this method of evaluation. Even without special effort, however, medical information is constantly finding its way to the school because of extended absenteeism or because of the interest of the physician caring for the child. There seems to be no inherent reason why such information, new to the school, should not serve as an impetus for a review of school health techniques. However, a more formalized procedure is desirable. Participation of practicing physicians in evaluation of school health services is bound to increase the effectiveness of the program by promoting mutual understanding and producing better coordination.

Are Children Receiving Professional Attention?

This question can be answered by a simple check and follow-up of the referrals made. Theoretically such a measurement ought to be reflected in the percentage of "defects corrected." However, the number of "defects corrected" frequently includes too many other variables. An accurate measurement of follow-up services can be made by determining:

1. The number of children referred by the school for medical or dental diagnosis or treatment. The basis for referral should be clear.
2. The number of referrals on which action is taken by the parent. Statements that such action was taken should be verified by a note from the parent, physician, or dentist.

Rather than computing the number of referrals on which action has been taken by the parents, a report may be prepared at the end of the school year giving the number of referrals for whom the outcome is still unknown. This method provides comparable information and sometimes is simpler to apply.

When such data are used to evaluate the results of health counseling and follow-up, factors that influence results must be considered. Some of the reasons parents fail to act are these: (a) they are not convinced that a need exists; (b) they do not consider the condition serious enough to justify the expense or effort of securing treatment; (c) they are not informed of community resources for securing treatment; or (d) community resources are nonexistent or inadequate. Also, parents may have psychological inhibitions growing out of fear that a suspected problem is serious. Thus, the data revealing the percentage of referrals acted upon by families must be interpreted in the light of these conditioning factors.

What Do Pupils and Parents Learn?

Since health services are planned partly for educational purposes, evaluation procedures should attempt to determine their educational outcomes. These may be in terms of knowledge, attitudes, or behavior.

A start can be made by checking program characteristics. Questions to be asked include: Have specific educational goals been formulated? Are teachers, physicians, dentists, nurses, and others aware of these educational goals and how each group may contribute to their attainment? Are educational goals kept in mind during the conduct of all services?

Answers to these questions may be obtained through perusal of written statements of policies and by observation of the actual conduct of health service activities. For example, are vision and hearing tests preceded by classroom discussion of such procedures and of related topics? Do teachers prepare pupils for medical examinations by discussion of their purposes and values?

Educational outcomes may be measured in some instances by the extent to which pupil and parent behavior has been influenced. School health services aim to have pupils secure immunizations against specific diseases, make periodic visits to a dentist, and secure health examinations from their physicians. The number of pupils who act on these suggestions is indicative of desirable educational outcomes.

Evaluation of the educational outcomes of school health services may be combined with evaluation of the total program of health education. When this is done, procedures are designed to determine pupils' health status, health behavior, health attitudes, and health knowledge. Methods for making measurements of this nature are described in Chapter 14 of *Health Education.*[*]

COMPARISON WITH RECOMMENDED PRACTICES

Since the custom of comparing actual procedures with recommended practices is common in the fields of education and public health, it is natural that this method should be used to evaluate school health services. It is frequently employed in surveys and is concerned with the total program of school health services.

Developing Standards

Before a comparison can be made, standards or criteria must be developed. Since each school and school system has its own peculiar needs and problems, it is necessary to develop check lists that meet local conditions, utilizing existing materials for suggestions. School health service guides or manuals prepared by various state and local departments of education and health may be found useful.

Once criteria have been developed, data can be secured concerning actual practices. Observations, interviews, and check lists are the means of obtaining data needed for making comparisons.

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[*] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Health Education.* Fifth edition. Washington, D. C. and Chicago: the Associations, 1961. See Chapter 14, "Evaluation in Health Education."

Comparing Practices with Standards

Comparison of practices with recommended standards is an evaluation technique that is readily applied to such aspects of school health services as equipment, facilities, and personnel. School housekeeping, handwashing, toilet facilities, and such things are judged largely by an inspection type of evaluation, keeping in mind such features as accessibility, safety, cleanliness, and attractiveness. School lighting can be measured quantitatively and compared to recommended standards. The book *Healthful School Living*, a publication of the Joint Committee on Health Problems in Education of the NEA-AMA, provides much valuable information on matters of school housekeeping, construction and equipment, lighting and acoustics, heating and ventilating, and water supply and waste disposal.

Procedures used in school health services may be compared with those suggested in various sections of this book. Practices employed in health appraisal and health counseling can be evaluated in terms of recommendations for those parts of the program. Studies may be made of practices in adapting programs to individual needs, in caring for emergency sickness and injury, and in helping to control communicable diseases. Established policies and procedures relating to the health of those engaged in physical education and athletics may be reviewed, and also those which relate to the health of school employees.

The preparation of teachers to participate in school health services can be checked against recommendations of authoritative reports.[1] The qualifications of physicians and nurses serving the school can be compared with recommendations of professional organizations. Amounts of service available from school health personnel can be compared with averages found available in a series of similar communities. Each chapter of this book suggests standards that may be used for evaluation purposes.

From the point of view of evaluation, direct observation of actual school health service practices is particularly important. This requires matching performance with an ideal, particular note being made of approach, attitudes, professional competence, and teamwork. Such observations require the judgment of well-qualified individuals. Those who administer school health programs, serve as school health consultants, or teach in colleges or universities should meet these requirements.

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[1] The Athletic Institute. *Undergraduate Professional Preparation in Physical Education, Health Education and Recreation.* Report of Jackson's Mill Conference. Chicago: the Institute, 1948. 40 pp. The Athletic Institute. *Graduate Study in Health Education, Physical Education and Recreation.* Report of Père Marquette Conference. Chicago: the Institute, 1950. 31 pp. American Association for Health, Physical Education, and Recreation. *Health Education for Prospective Teachers.* Report of the National Conference on College Health Education. Washington, D. C.: the Association, a department of the National Education Association, 1956. 33 pp.

Value of Self-Surveys

Survey techniques provide a base line from which school health services can be reoriented. The survey may be conducted by experts, individuals from the various professions involved in school health services who have had successful experience in actual programs. On the other hand, surveys may be made by lay and professional persons of a particular community, including representatives of teachers, administrators, physicians, nurses, the health department, medical and dental professions, PTA groups, and others.

Self-surveys have a special significance and value. Since the recommendations resulting from such surveys come from the individuals who must implement them by new services, new policies, or better coordination, they frequently lead to action. This characteristic of a self-survey sometimes gives it a practical value greater than the authoritative opinion of experts.

One question a survey team may ask, whether it is a group of experts or a local committee, is this: What methods are being used to evaluate school health services? One of the recommendations it might make is that appropriate evaluation methods be developed. However, frequent surveys do not meet the need for evaluation. The repeat survey lacks the enthusiasm and motivation of the original and soon degenerates into a routine completion of forms and questionnaires. Other methods must be used to provide a continuing evaluation process and to measure the extent to which progress has been made toward stated goals.

A Method for Obtaining Data

As a means of encouraging evaluation of school health programs in local schools, a committee of the Massachusetts School Health Council prepared and published an *Administrator's Self-Evaluation Study of the School Health Program.* Answers to questions contained therein are to be obtained through self-study by the staff of a particular school or school system, and will provide information concerning actual school health practices. Questions are grouped under the following ten headings: (1) Administration and Coordination of the School Health Program, (2) School Health Services, (3) The Contribution and Functions of the Nurse in the School Health Program, (4) Dental Health in the Schools, (5) Physically Handicapped and Mentally Retarded Children, (6) School Mental Health Programs, (7) Healthful School Environment, (8) Health Instruction in Elementary and Secondary Schools, (9) Nutrition Education and the School Lunch, and (10) Contribution of Physical Education and Safety Education.[2]

The following questions from the sections on School Health Services and School Mental Health Programs illustrate the kind of data that may be obtained.

SCHOOL HEALTH SERVICES

School Health Services are aimed at the complete health appraisal of each child. They include screening tests, medical examinations, and follow-up. Also included in this area are school emergency care and first aid.

1. What effect do you think spaced school health examination has had on your school health services?
2. Why do you think more school-age children do not receive periodic health appraisals from their family physicians in place of the routine school health examinations?
3. Why do you think so few parents are present at the routine school health examination?
4. If a parent is not present at school health examinations, what methods of follow-up of findings have you found most effective in achieving the objective of parental action? (Check these—home visits of nurse, school visits by a parent, letters, telephone calls, communication by school physician with family physician, or others—specify.)
5. Estimate the proportion of children in your school system, this past year, not receiving a routine school health examination who were referred for special examinations because of suspected health problems. Who referred such children?
6. Where are the recorded findings and recommendations of school health examinations filed? What school personnel have direct access to these records? Who interprets these records to other school personnel as needed?
7. Who is responsible for interpreting to the teacher the problems and needs of the seriously handicapped or disturbed child?
8. To whom does the teacher refer pupils with the following health problems—mental and emotional difficulties, acute illness or injury, physical defects, and apparent poor health?
9. Are at least three routine teacher-nurse conferences conducted each year in Grade 1? Are at least three routine teacher-nurse conferences conducted each year where routine school health examinations are not carried out?

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[2] Massachusetts School Health Council. *Administrator's Self-Evaluation Study of the School Health Program.* Boston: Commonwealth of Massachusetts, Departments of Education, Mental Health, and Public Health, 1959. 24 pp.

10. Are all children given vision and hearing tests annually? Have all testers taken the in-service training made available by the Massachusetts Department of Public Health?
11. Why is it that a significant number of parents fail to obtain professional care for children suffering from vision and hearing impairments?
12. Check which of the following screening tests are given in your schools: physical growth tests (weighing and measuring), psychological tests, personality tests, dental inspections, AAU physical fitness tests, AAHPER fitness test, Navy test, Waves test, Army test, PFI test, Kraus-Webber test, others (list).
13. In what year were your posted standing orders for emergency care and first aid written? Is a person assigned for administering first aid in each school building?
14. How many school buildings are there in your school system? How many of these buildings contain a school health suite or room? How many of these suites are equipped with an examining table?
15. Is there an annual tabulation of data taken from school health records which shows the percentage of children admitted to kindergarten or first grade who have not been previously immunized against diphtheria, tetanus, and whooping cough? Polio?
16. If this number is found to be high, is it called to the attention of the local health agency?
17. The Massachusetts Department of Public Health recommends that children and young adults should be immunized or should receive booster doses (whichever is indicated in the individual case) of toxoid for prevention of diphtheria and tetanus before or during the first year of school, again at about the sixth grade, and again at about the sophomore or junior year of high school. In consideration of this recommendation, is there an arrangement within the school system, or the local health agency, to implement it? Describe.
18. Upon return of a child to school following an unexplained illness or absence, what procedure is followed to determine whether or not a certificate from the Board of Health or the school physician is required?
19. Do you have a routine periodic intradermal tuberculin testing program for discovering source cases of unsuspected tuberculosis in the home and to discover converters in children? (A converter is an individual who in one year is negative, but who at another year changes to positive, revealing a recent exposure to a person with active tuberculosis.)
20. What other official or voluntary agencies are regularly involved in the home follow-up of children with positive reactions on intradermal tuberculin testing?
21. Do you have a formulated policy for tuberculosis control measures in your school system? Describe.

School Mental Health Programs in Massachusetts

The school mental health program is concerned with the emotional and physical well-being of all children and adults making up the school community.

1. Why does your school mental health program not yet reach all children and adults making up the school community? What additional personnel, services or programs are needed to attain this objective?

2. What in-service training program in mental health is being carried on in your school system?
3. Is there an area mental health center serving your schools? If so, what services do you receive from this mental health center? Check—professional in-service teacher education programs, mental health consultation service or clinical diagnostic and treatment services to children referred by schools.
4. Do you consider the services you receive from such a center adequate to meet your needs?
5. Approximately what proportion of pupils were referred for diagnosis and treatment last year?
6. What other community mental health resources are available to your schools?
7. To whom is administrative responsibility delegated for referral of children and their parents to a mental health center or other resources?
8. Through whom are mental health services coordinated with school health services?
9. What is the major responsibility of the following personnel in respect to the school mental health program—school superintendent, school principal, school teacher, school physician, and school nurse?
10. Where are your mental health records kept? Who has direct access to them? Who interprets them to other school personnel as needed?[3]

Obtaining information to answer questions such as those listed above is only the first step in evaluation. Such information needs to be compared with accepted criteria, or standards. In Massachusetts, data obtained through use of the self-study form are compared with standards contained in a companion publication, *The Administrator's Guide for the School Health Program.*[4]

USE OF STATISTICAL DATA

The application of statistical methods to school health service data is a useful procedure provided data are accurately collected and properly interpreted. Statistics measure the volume and type of work done. Although they do not measure quality, they may at times lead to a quality judgment.

Types of Data To Be Collected

In determining the kind of data to be collected, school health service personnel must accurately define their goals and policies and, insofar as possible, design their reports for the purpose of determining whether goals are being achieved and policies carried out. Items to be reported must be clearly defined and be capable of being enumerated without imposing undue burden upon the staff. They should be designed to measure a procedure or service the measurement of which will be of practical usefulness. Above all, the participating staff must understand the definitions of items and the use to which their reports are to be put, so that they will be motivated to collect data accurately.

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[3] *Ibid.*

[4] Commonwealth of Massachusetts. *The Administrator's Guide for the School Health Program.* Boston: Commonwealth of Massachusetts, Departments of Education, Mental Health, and Public Health, 1957.

Statistics can be used to establish a base line from which positive goals of service may be projected. For example, schools may secure data that give the percent of first grade pupils successfully vaccinated against smallpox and immunized against other preventable diseases, the number of entering children who have been examined by their family physician, the number who visit a dentist during the year, and the frequency with which parents are present at examinations of young children. These data can be gathered each year, the figures for each successive year being compared with those of previous years.

Considering Related Factors

Statistical data measure only volume of activity and must be interpreted in conjunction with other facts. For example, the data may indicate that every child in school is tested annually for visual acuity. But unless desirable testing techniques are used, appropriate facilities are available, and the follow-up of children is thorough, the number tested means little.

At times, health service data are useful in a negative way. They may indicate, for example, that the school physician or dentist examined so many children in a given period of time that he could not possibly have been thorough in his appraisal, or they may indicate that the nurse is so overwhelmed with emergency care procedures that she has no time left for health counseling or for conferring with teachers.

Interpreting Statistical Data

An important but neglected use of statistical methods is for comparison of schools within the same system. This is feasible in a metropolitan school system or a state system with standardized reporting and a large supervisory force. However, comparisons must be made with great care, for injudicious comparisons are misleading and unfair.

A number of practical ratios can be set up and the ratios of one school compared to another and to an average ratio. As an example: The number of children referred by classroom teachers for school medical examination is a measurable item. The percentage of pupils so referred may be twice as great in one school as in another. This difference may be explained by unlike socioeconomic conditions since a higher percentage of referred children may be expected among an underprivileged group of children. If socioeconomic conditions are comparable, the difference between two schools may mean a lack of interest among the teachers of one school or an overenthusiastic interpretation of the signs of ill health among the teachers of the other school. The difference may be the result of the teachers' opinion of the value of referral. Any or all of these factors may influence reports from the two schools, but their significance cannot be determined without a review of the total situation on an individual basis. Statistics can only point to the need for such a review.

Another example of the use of such methods may be cited. The percentage of pupils referred by teachers for medical examination may be identical in two schools. Yet the percentage of children actually found by medical examination to need treatment may be twice as great in one school as in the other. Such difference may be explained by good or poor selection of children by teachers or by variations in standards used by examining physicians. Again, these possibilities must be analyzed by a review of the total situation, but the marked difference in ratios shows the need for such study.

"Average" Is Not "Normal"

A word of caution is in order concerning the use and interpretation of the "average" figure in school health service statistics. There is a strong tendency to use the average as a "normal" or "desirable" figure and to press the school that is out of line back into place. Since so many variables are present in health appraisal and other health service activities, the most that can be said for a ratio of service which markedly deviates from the average is that it call for investigation.

Reports on Defects Corrected

The number of defects found and corrected are often reported and cited as proving the value of school health services. Such reports must be viewed with great caution. Too often the data neither weigh the seriousness of the defects specified nor indicate the nature or extent of the corrective action taken. A "cardiac defect" may mean anything from a murmur that is clearly functional in nature to an advanced case of rheumatic heart disease. Correction of a defect may mean that parental action has been taken to correct a condition school personnel knew nothing about. The difficulty of defining precisely what constitutes a defect and what constitutes a correction is so great that certainly no school should consider reporting results in these terms without first defining the terms. The basic premise of this type of evaluation has merit, however, since it considers measuring the degree to which fundamental objectives are achieved.

ADAPTING MEASUREMENTS TO THE SITUATION

Evaluation must be based on the existing local situation and motivated by an honest desire to change it for the better. As previously noted, the group undertaking a survey must select standards and measurements appropriate to the particular program and community. In addition, the group must be certain that it is not utilizing the survey to defer the painful process of facing up to a problem which should be perfectly obvious to everyone. Such action can only becloud or delay improvement to the detriment of the community.

Considering Local Problems

The same principles hold for whatever continuing methods of evaluation a school plans to use. The methods suggested in this chapter may not be feasible for every school since the methods selected for evaluation should be influenced by the special health problems prevailing locally. For example, in an area where hookworm infestation is widespread it is logical to concentrate on finding out how many symptomatic cases of hookworm disease unknown to the school are coming to the attention of local physicians.

Where community resources are inadequate, it may be necessary, for a period of time at least, to give priority to certain health problems. Guidance in selecting priorities in terms of types of problems is offered by a publication which suggests that the priority a condition should command, in regard to care and follow-through, depends on the degree to which the condition—

1. Interferes with satisfactory progress in school.
2. Affects unfavorably the emotional status of the child.
3. Is amenable to preventive measures.
4. Is progressive to a serious handicap or disease or is likely to affect the eventual health of the child.

5. Is common to many children throughout the country or is peculiar to the specific community.
6. Endangers the health of others in the family or community.
7. Is correctible by medical treatment.
8. Requires limited expenditure of funds per case.
9. Has been neglected in the past.
10. May be adequately treated by facilities and personnel which are or can be made available.[5]

Selecting Areas for Evaluation

Even if it were possible for a school health service to utilize all of the suggestions in this chapter at the same time, it would not be desirable. This would be so demanding of time and personnel that evaluation would overwhelm service rather than contribute to its growth. Certain aspects of a program can be evaluated annually as suggested in the discussion of school health service data and statistics. Other aspects, particularly those concerned with the achievement of fundamental objectives, may best be scrutinized on a selective basis. This scrutiny should be turned on different aspects of service only after assurance that the one previously evaluated is functioning satisfactorily.

Although a school or community may at times concentrate its efforts at evaluation on a particular part of the program, it is desirable that such activity be viewed in the light of total evaluation needs. This idea is expressed in recommendations of the Third National Conference on Physicians and Schools. A group at this conference suggested—

1. That evaluation standards be checked at regular intervals.
2. That the child's cumulative health record be constructed so as to provide information necessary for future evaluation of the school and community health program.
3. That periodic re-appraisals of the whole child be made and compared with the goal for that child.
4. That the over-all follow-up program be considered in relation to the order of priority.
5. That the over-all plan be re-appraised and evaluated periodically.
6. That the need for research in continuing evaluation be kept in mind.
7. That two types of evaluation forms be used: (a) for evaluation of the individual child and (b) for an over-all evaluation of the health program.[6]

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[5] U.S. Office of Education, Federal Security Agency, Children's Bureau, Committee on School Health. *Priorities in Health Services for Children of School Age.* Washington, D. C.: Government Printing Office, 1950. pp. 17-18.

[6] American Medical Association. *Report of the Third National Conference on Physicians and Schools.* Chicago: the Association, 1951. p. 40.

IN SUMMARY

Several methods of evaluation have been presented. One involves an estimation of how nearly the health service program meets its stated objectives of protecting and promoting the health of children. Are children who need professional attention being found? Are children referred for professional attention receiving the care they need? Are pupils and parents learning more about the protection and promotion of health?

Program practices may be checked against recommended standards. This type of survey can be carried on by a representative panel of experts or, better still, from the standpoint of in-service education, by lay and professional individuals within the community. The advantages of the community self-survey lie in the seeds of action it carries with it. Neither type of survey should be undertaken unless there is a sincere desire to change existing practices for the better. The standards against which practices are matched should be realistic in the light of the local situation. Surveys of this nature serve primarily to provide data which a school can use in planning or reorienting its program.

Regardless of the methods employed, it is imperative that evaluation be in terms of clearly defined objectives for the particular school or school system. Evaluation begins with the formulation of program objectives; in turn, evaluation leads to a restatement of goals.

FOR FURTHER READING

AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION. *Your Community-School Community Fitness Inventory.* Washington, D.C.: the Association, a department of the National Education Association, 1959. 40 pp.

AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION; AMERICAN PUBLIC HEALTH ASSOCIATION (SCHOOL HEALTH SECTION); AND AMERICAN SCHOOL HEALTH ASSOCIATION—JOINT COMMITTEE ON EVALUATION. "Evaluation Instruments in School Health Education." *Journal of Health, Physical Education, and Recreation* 26:13; November 1958.

AMERICAN MEDICAL ASSOCIATION, DEPARTMENT OF HEALTH EDUCATION. *Report of the 7th National Conference on Physicians and Schools.* Chicago: the Association, 1959. 133 pp.

CLARK, H. HARRISON. *Application of Measurement to Health and Physical Education.* Third edition. Englewood Cliffs, N.J.: Prentice-Hall, 1959. 528 pp.

FLORIDA STATE DEPARTMENT OF EDUCATION AND STATE BOARD OF HEALTH. *Action With Purpose.* A report of an evaluation conference on school health. Tallahassee: the Department, 1957. 49 pp.

JOHNS, EDWARD B., director. *School Health Evaluative Study.* Los Angeles: University of California Press, 1960. 128 pp.

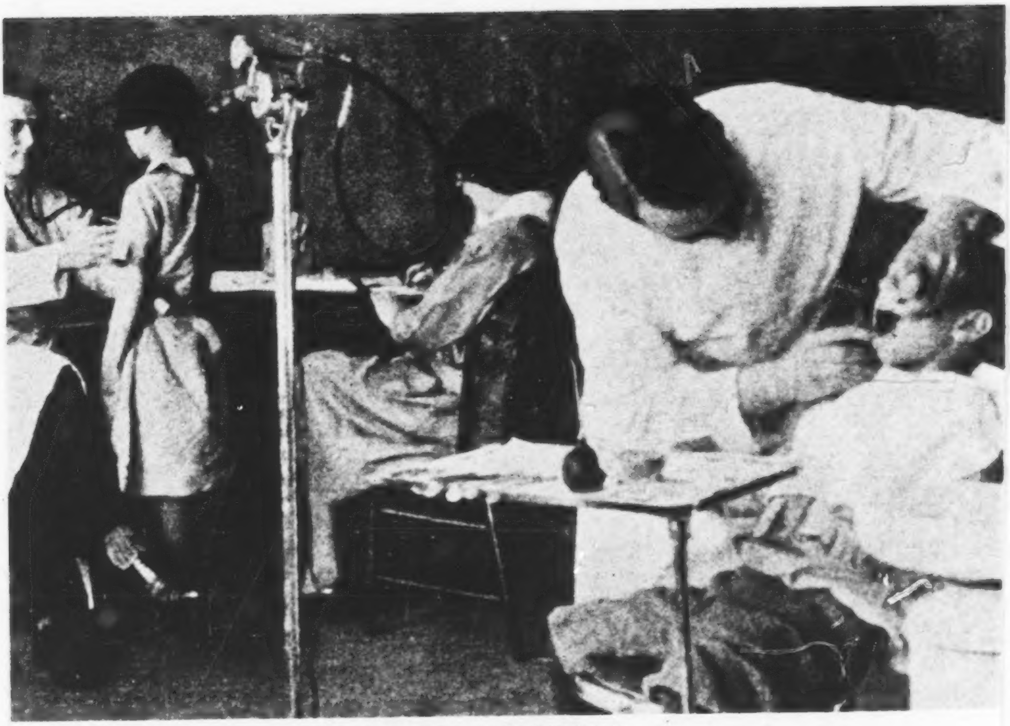
MASSACHUSETTS SCHOOL HEALTH COUNCIL. *Administrator's Self-Evaluation Study of the School Health Program.* Boston: Commonwealth of Massachusetts, Departments of Education, Mental Health, and Public Health, 1959. 24 pp.

NATIONAL EDUCATION ASSOCIATION AND AMERICAN MEDICAL ASSOCIATION, JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION. *Health Appraisal of School Children.* Second edition. Washington, D.C. and Chicago: the Associations, 1957. 323 pp.

NATIONAL STUDY OF SECONDARY-SCHOOL EVALUATION. *Evaluative Criteria.* 1960 edition. Washington, D.C.: National Education Association, 1960. 376 pp. See Section H, "Health Services."

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, CHILDREN'S BUREAU. *A Selective Review of Evaluative Studies of School Health Services.* Publication No. 262, 1957. Washington, D.C.: Government Printing Office, 1957. 149 pp.

U.S. OFFICE OF EDUCATION, PUBLIC HEALTH SERVICE, CHILDREN'S BUREAU. *Better Health for School-age Children.* Washington, D.C.: Government Printing Office, 1951. 11 pp.



FROM MASS SCREENING . . .

TO PERSONALIZED EXAMINATION

Chapter 18

Historical High Lights

Modern school health services have evolved gradually from pioneer programs that centered around problems of school sanitation and communicable disease control. Although the beginnings of many activities are somewhat masked by a lack of complete historical data, there is sufficient information to highlight some of the important milestones and to indicate some of the numerous forces that brought about changes. Particular attention will be given to the various groups that provided leadership to school health services and to publications which, because of their character and the scope of their distribution, helped to develop the philosophy which guides these activities today.

School health services are closely related to the broader fields of education, medicine, and public health and consequently have been modified in accord with progress in these fields. The way these areas of endeavor have affected school health services will be described in later paragraphs.

BEGINNINGS

The earliest recorded school health services activities were of European origin. From such efforts came part of the heritage of programs in the United States.

European Roots

School health services in Europe developed from initial work directed toward the betterment of general health conditions in educational institutions. A French law of 1833 charged school committees of cities and towns with the duty of keeping schoolhouses clean. Four years later, the female supervisors of maternal schools (kindergartens) were instructed to watch over the health of little children. An 1842-43 Paris statute required that every boys' and girls' school be visited by a physician to "inspect the localities" and observe the general health of the children.[1]

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[1] Gulick, Luther S., and Ayres, Leonard P. *Medical Inspection of Schools.* New York: Russell Sage Foundation, Charities Publication Committee, 1908. p. 18.

Although these were path breakers, it was almost 40 years before organized health programs were developed in other European cities. Brussels established a program in 1874 by appointing physicians who were scheduled to visit schools three times each month. Similar programs were developed in Paris in 1879, Antwerp in 1882, Hungary in 1886, Moscow in 1888, Leipzig and London in 1891, and in Weisbaden in 1896.[2]

In this early period the most comprehensive and successful program of health examinations was that initiated in Weisbaden, Germany. By 1898, this plan was generally adopted throughout most of Germany. It was also widely copied by other nations.

Efforts to guide and protect the health of school children spread rapidly to other countries. An 1899 Roumanian law decreed that all school children be examined yearly. In 1908, a national "Medical Inspection Act" was passed in England. This represented the forerunner of present school health services in Great Britain.[3]

In the western hemisphere, Argentina established a comprehensive program shortly after the turn of the century. It provided for the vaccination of school children, the inspection of school sanitation conditions, the visiting of sick children in their homes, the identification of communicable diseases, and the provision of medical advice to teachers and pupils.

Early Activities in the United States

The beginnings in this country of activities now classified as school health services can be traced to the latter years of the nineteenth century. Certain pioneer work, however, was evidenced even before this time.

William A. Alcott (1798-1859), a distinguished educator, physician, and school health pioneer, expressed an early interest in the health of school children. He wrote in 1840:

> Until the teachers of the schools can be trained to a thorough and practical knowledge of the science of human life and health there will be a thousand things of frequent, if not daily, recurrence in every school which will require medical attention. Or, to say the least, there will be daily or hourly recurring cases which will raise these enquiries in the minds of the honest, faithful, inquiring teachers who have their minds turned to the subject of health, and a desire implanted in their bosoms to obey its laws, which they will remember or note down, and be glad to present to the medical man at his semi-weekly, weekly, or monthly visits. For, say what we will of the novelty of such a

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[2] Wood, Thomas D., and Rowell, Hugh G. *Health Supervision and Medical Inspection of Schools.* Philadelphia: W. B. Saunders Co., 1927. 637 pp.

[3] Wilson, Charles C. "School Health Services in England and the United States: A Comparison." *American Journal of Public Health* 42: 649-54; June 1952.

> plan or proposal, our schools ought to have their regular physicians, as much as our houses of industry, our almshouses, or our penitentiaries.[4]

A decade later, in 1850, Lemuel Shattuck (1793-1859) recommended a procedure by which pupils would observe the health of themselves and their classmates. He proposed that the teacher appoint a "sanitary committee of the scholars," upon the commencement of school, and that on the first day of each month they should appraise the class under his "superintendence." According to Shattuck:

> Such a measure is simple, would take but a few minutes each day, and cannot operate otherwise than usefully upon the children, in forming habits of exact observation, and in making a personal application of the laws of health and life to themselves. This is education of an eminently practical character, and of the highest importance.[5]

Toward the end of the nineteenth century other evidences of concern for the health of school children were manifested. In 1872 a "sanitary superintendent" was employed by the Elmira, New York, Board of Education to cope with the "alarming prevalence of smallpox."[6] Frequent examinations of school children, exclusion of the unvaccinated, and supervision of sanitary conditions were included under his activities.

The first public school medical officer in the United States was appointed by the City of New York in 1892.[7] Two years later, in November 1894, 50 "medical visitors" were appointed in Boston.[8] These physicians visited the schools each day and examined "all children thought by their teachers to be ailing." This program represented the first city-wide system of medical inspection and served as the pattern for subsequent organization in other cities.

Comparable programs were begun in Chicago in 1895, New York in 1897, and Philadelphia in 1898.[9] Physicians were appointed in these cities to "inspect pupils suspected of having contagious diseases."

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[4] Alcott, William A. *Health in Common Schools.* Boston, 1840. (Quoted by James F. Rogers in Federal Security Agency, U.S. Office of Education, "Health Services in City Schools." *Biennial Survey of Education in the United States 1938-40.* Vol. I. Washington, D.C.: Government Printing Office, 1940. Chapter 5.

[5] Shattuck, Lemuel. *Report of the Sanitary Commission of Massachusetts.* Facsimile edition. Boston: Dutton & Wentworth, 1850. p. 179.

[6] Kilander, H. F. *Health Services in City Schools.* Federal Security Agency, U.S. Office of Education, Bulletin #20. Washington, D. C.: Government Printing Office. 1952. p. 1.

[7] Ravenel, M. P., editor. *A Half Century of Public Health.* Jubilee Historical Volume of the American Public Health Association. New York: the Association, 1921. 461 pp. (See section on "Child Welfare Work in the U.S." by Philip Van Ingen.)

[8] Kilander, *op. cit.*, p. 1.

[9] U.S. Department of the Interior, Bureau of Education. "Medical Inspection in Schools." *Report of the U.S. Commissioner of Education, 1897-98.* Vol. II. Washington, D. C.: Government Printing Office, 1899. pp. 1489-1511.

Broadening Activities and Concepts

Due to new procedures for the prevention and control of communicable disease, new facilities for patient care, and the publicity and success of school medical inspections, health services in the public schools expanded rapidly around the turn of the century. The large number of pupils with acute sickness disclosed in cities possessing systems of inspections helped to justify existing programs and bring about increased services. The combination of these developments ushered in a new era of greatly broadened activities.

In 1899 the legislature of Connecticut made compulsory the examination of all public school children for visual defects. Test cards and instructions for their use were furnished by the State Board of Education to the superintendent, principal, or teacher responsible for the testing program. Notification of the parents or guardians of pupils who appeared to have defects of vision was required.

Routine inspection of all pupils to detect contagious eye and skin diseases was provided in New York City in 1902. A year later New Jersey authorized boards of education to employ school physicians, and in 1904 Vermont passed legislation requiring "annual examination of the eyes, ears, and throats of school children." Massachusetts made medical inspection mandatory in all public schools of the Commonwealth in 1906.[10]

Many children who were excluded as a result of medical inspections suffered from the so-called "nuisance diseases" of pediculosis, scabies, and impetigo. A significant percentage received no care but simply stayed out of school. To solve this problem in New York, Lillian Wald loaned one of the Henry Street visiting nurses for a demonstration in a few schools. This nurse counseled parents and encouraged them to secure needed treatment or to follow proper care procedures. The experiment was so successful that the first municipally supported school nursing service in the United States evolved in New York in 1902.[11]

The ensuing growth of school nursing programs was rapid. Los Angeles and Philadelphia established similar services in 1903, and Boston followed in 1905. By 1911 there were 102 cities employing some 415 school nurses. Two years later the New York City program alone had expanded to 176 nurses.[12] By 1923, 84 of the 86 cities surveyed by the American Child Health Association had developed nursing services in their schools. Sixty-nine of these same cities also had physician services, while some form of physical examination was universal.[13]

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[10] Means, Richard K. *A History of Health Education in the United States.* Philadelphia: Lea and Febiger, 1962. 412 pp.

[11] Ravenel, *op. cit.*

In most instances the first school nurses were financed by visiting nurse associations, settlement houses, or similar organizations. Only after demonstrating the value of their work were they employed by the health department or public schools. Although originally utilized to assist in the control of communicable diseases, the role of the school nurse has greatly changed over the years.

Further illustrative of the broadening concepts and practices in school health services was the beginning of dental health work. As early as 1898 the Cleveland Dental Society requested that dental inspections be introduced into the schools. Although it was a decade later before permission was granted and a demonstration program launched, by 1910 all Cleveland city school children had received a dental examination and four centrally located clinics for treatment had been established.[14] The first school dentist was appointed some years earlier in 1903 in Reading, Pennsylvania.

The dental hygienist movement, largely paralleling the growth of school dental programs, was initiated by Alfred C. Fones, although the basic idea dated back to the early 1880's when it was suggested that women be trained as dental hygienists. In 1913 Fones obtained a $5,000 appropriation from the city of Bridgeport, Connecticut, to establish a school dental clinic and an educational program. In the same year he opened the first school for dental hygienists.[15]

Open-air schools, intended generally for the more efficient care and instruction of physically below-par children, also had an early twentieth-century impact on school health services. Conceived in Germany in 1904, the open-air school idea in the United States owes its origin to the movement for the prevention and treatment of tuberculosis. Ayres, a pioneer proponent of the idea, reported that "the credit and honour of establishing the first open-air school in the United States belongs to the city of Providence, Rhode Island, where the work was begun on January 27, 1908."[16] Within the same year, Boston, New York, and Chicago established "outdoors schools." Soon there were open-air classes or schools in all parts of the country.

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[12] Mitchell, Harold H. "Forty Years of School Medical Inspection." *Journal of Pediatrics* 7: 1-8; November 1935.

[13] American Child Health Association, Research Division. *A Health Survey of 86 Cities.* New York: the Association, 1925. 614 pp.

[14] U.S. Department of the Interior, Bureau of Education. *Report of 1910.* Washington, D. C.: Government Printing Office, 1910. p. 140.

[15] Fones, Alfred C. *Mouth Hygiene: A Course of Instruction for Dental Hygienists.* New York: Lea & Febiger, 1916. 530 pp.

Open-air classes focused attention on the need for controlling tuberculosis and undernourishment in school-age children. They were gradually replaced, however, by more effective measures for solving these problems, namely, the use of tuberculin tests and x-rays for identifying tuberculous children and improved home feeding and other home care measures for helping the undernourished. Moreover, school personnel recognized that all children needed classrooms which were properly ventilated and in which air temperature and humidity were kept at desirable levels.

FACTORS INFLUENCING CHANGES

Many factors exerted directing and modifying influences on the development of school health services in the United States. Although the relative importance of separate forces is undeterminable, each of the following factors directly or indirectly produced changes.

1. Successful school health practices in foreign countries, particularly European nations
2. Changes in the philosophy of education
3. Alterations in social viewpoints regarding child health and welfare
4. Expansion of public health programs
5. Medical and scientific progress
6. Impact of health problems stemming from war conditions and other periods of national crisis
7. Development of the behavioral sciences; greater understanding of the growth and development characteristics of children and youth
8. Leadership and inspiration by pioneering individuals interested in the well-being of all school children
9. Contributions by professional health associations, governmental health agencies, voluntary health organizations, and institutions of higher learning
10. Development of organized civic groups whose concern about health stemmed from the interest of school patrons

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[16] Ayres, Leonard P. *Open-Air Schools.* New York: Doubleday, Page & Co., 1910. p. 46.

11. Financial support, particularly in the fields of research, demonstration, and experimentation, by philanthropic organizations interested in child welfare.

These and other factors have shared in the organization, integration, and improvement of programs of school health services. All have contributed directly or indirectly in the development of the philosophy which guides operational practices today.

Changes in Educational Philosophy

During the past half-century, developments in educational philosophy have portrayed a shift from a solely subject matter approach to one which includes attention to child growth and development. Before 1900 teachers and administrators were concerned almost exclusively with intellectual development and the acquisition of facts. As time went on, however, such matters as growth, hearing, vision, nutrition, and general health status began to receive proportionate emphasis.

This change brought the physical, mental, and social needs of children and youth to the attention of school personnel. With the acceptance of a more balanced concept of education, school personnel became more interested and concerned with services which safeguard good health and have accepted these as essential to effective education.

Expansion of Medicine and Public Health

Concomitant with changes in educational philosophy were the expansion and extension of public health activities. Public health programs related to protecting and promoting child health received emphasis and were directed toward infants, preschool children, and children of school age. Particular attention was devoted to problems of mental health, nutrition, handicapped children, and the prevention of tooth decay.

The discoveries of modern science and increased recognition of the importance of health fostered the growth of medicine and public health. Beginning late in the nineteenth century, great advances were made in pediatrics and other fields concerned with child growth and development. This was evidenced by the wealth of data obtained from medical, clinical, and laboratory observation and measurement that was assembled and reported by the Committee on Growth and Development at the 1930 White House Conference on Child Health and Protection.[17]

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[17] White House Conference on Child Health and Protection. *Growth and Development of the Child.* Committee on Growth and Development, Section I (Kenneth D. Blackfan, Chairman). New York: Century Company, 1932. pp. 51-66.

Cognizant of the lag between knowledge and its application to life situations, efforts have been focused on overcoming this gap. The nature and scope of medical, educational, and public health activities have greatly broadened to facilitate more expedient understanding and acceptance of desirable health practices. The process has been augmented by private, professional, voluntary, and governmental programs.

Impact of National Crises

The public reacts more favorably to health and welfare services in times of national emergency or crisis than during periods of relative peace and security. This fact has been consistently emphasized at the time of each great war, particularly World War I and World War II.

Wood and Rowell portrayed the influence of the First World War on school health activities. They reported:

> Because of the War as such and because of the economic readjustments which followed it, the period from 1914 to 1926 may be considered one of a typical progress and of undetermined significance in school health work, except that the poor condition (mental and physical) of recruits served as an impetus to increasing interest in more comprehensive public health programs.[18]

Much publicity was given to the large percentage of draftees who were rejected because of disqualifying defects during World War I. With the mistaken notion that increased physical education would prevent or correct such defects, many states passed laws making physical education in schools mandatory. Patty indicated that "almost all of the states enacted laws concerning health and physical education between 1918 and 1921."[19] Although this legislation had beneficial results, it was readily apparent that it did not result in the prevention of disqualifying defects.

Large numbers of men were again rejected by Selective Service examiners during World War II and subsequent conflicts. Analysis of these data, however, revealed that they were not appropriate for an evaluation of changes in health conditions. The health status of volunteers was not included in statistical tabulations. Rejectees were often examined more than once, and the results of each examination recorded in summaries of examination results. Furthermore, educational disqualifications were included as causes for rejection and many of the physical causes of rejection were neither preventable nor correctable. The situation did, however, cause some schools to reassess their health service efforts.

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[18] Wood and Rowell, *op. cit.*, p. 24.

[19] Patty, W. W. "Trends in the School Health Program." *Journal of Health and Physical Education* 16: 183-85, 223-25; April 1945.

GROUPS PROVIDING LEADERSHIP AND GUIDANCE

Since effective school health services require cooperative effort by persons of various disciplines, it is not surprising that many professional organizations, voluntary associations, private groups, federal agencies, and colleges and universities have shared in providing leadership and guidance in the development of school health policies and procedures. Brief reference to certain selected groups should help reveal the widespread interest in school health work and the assistance rendered toward improved programs. The historical backgrounds of organizations described in the following section point out the contributions they made to school health services through their activities and publications.

The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association

This professional committee was established in 1911 through the union of separate committees of the National Education Association and the American Medical Association. Each of these associations was interested in child health and each had worked independently in this area for many years. However, it was not until the president of the AMA suggested that a committee of his organization visit the convention of the NEA, in 1911, that the two associations joined forces.[20] The AMA suggestion was accompanied by an offer to work cooperatively with the NEA and an expression of belief that joint efforts would result in greater rewards than if each worked independently.

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[20] When the AMA committee visited the NEA convention in San Francisco in 1911, the National Council of Education of the NEA was the group to receive its suggestion and act on it. Charles H. Keyes, president of the National Council, appointed the committee members. These were: Thomas D. Wood, M.D., *chairman*; David Starr Jordan, president of Stanford University; Jacob A. Shawan, superintendent of schools, Columbus, Ohio; William H. Burnham, Clark University; John F. Keating, superintendent of schools, Pueblo, Colorado; William H. Allen, Bureau of Municipal Research, New York City; Clark W. Hetherington, Chicago, Illinois; Philander P. Claxton, U.S. Commissioner of Education; and A. E. Winship, editor of the *Journal of Education*. Dr. Charles H. Keyes, who had appointed the committee, also participated as an active member. The AMA committee appointed at a later date by the AMA consisted of R. W. Corwin, M.D., *chairman*, Minnequa Hospital, Pueblo, Colorado; John M. Dodson, M.D., Rush Medical College, Chicago, Illinois; and M. J. Rosenau, M.D., Harvard University, Boston, Massachusetts.

Initially the Joint Committee was composed of two cooperating committees, one from the National Council of Education of the NEA and one from the AMA. Since 1939, when the Committee was reorganized, it has been composed of 10 members, five appointed by each parent organization, and it has functioned as a unit rather than as two separate groups.

The Joint Committee has played a leading role in the three primary areas of the school health program: health services, health instruction, and healthful living. The initial work of the Committee was in the area of rural school health, and its first publication in 1914, *Rural Schoolhouses and Grounds,*[21] was a treatise on the construction of rural school buildings "from the sanitary and educational point of view."[22] A second publication, *Minimum Health Requirements for Rural Schools,*[23] was also published in 1914. This eight-page pamphlet presented the special problems of the rural school and then established minimum standards for lighting, ventilation and heating, water, furniture, and toilets. In reports to the NEA, the Joint Committee chairman stated that several states had adopted the report as a standard for rural schools and that there was evidence that it had exerted a marked influence in improving rural school sanitation.[24] Over 800,000 copies of this pamphlet were distributed.

Following its first efforts in rural school health problems the Joint Committee realized that the solution of health problems would need to be approached not only through improvement of the environment but also through improved preparation of teachers and attention to the personal health of the child. This broadened view led the Joint Committee to cooperate with other organizations and to provide leadership in focusing the attention of the public and the professions on the problems of health in education.

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[21] Dresslar, Fletcher B. *Rural Schoolhouses and Grounds.* U.S. Bureau of Education, Bulletin 1914, No. 12. Washington, D. C.: Government Printing Office, 1914. 162 pp.

[22] *Ibid.*, p. 7.

[23] Joint Committee on Health Problems in Education of the National Education Association and of the Council on Health and Public Instruction of the American Medical Association (Thomas D. Wood, Chairman). *Minimum Health Requirements for Rural Schools.* Chicago: American Medical Association, 1914. 8 pp.

[24] Wood, Thomas D. "Report of the Joint Committee on Health Problems in Education." *Addresses and Proceedings, 1926.* Washington, D. C.: National Education Association, 1926. Vol. LXIV. p. 174.

A second outstanding accomplishment of the Joint Committee was the publication of the book *Health Education.*[25] The first edition was the result of two years of endeavor by a technical committee of 27 experts. This was among the first publications prepared specifically for teachers in training. *Health Education* has been revised and rewritten four times: the most recent edition being that published in 1961. *Health Education* and the companion books, *School Health Services*[26] and *Healthful School Living,*[27] constitute a triumvirate of publications that are highly valued in the field of school health.*

The work of the Committee has not been limited to publications;[28] it has adopted and disseminated many important resolutions and recommendations. At its annual meeting the Committee gives consideration to problems brought to its attention by educators and physicians and, if it deems it desirable, prepares a recommendation or passes a resolution. Such recommendations and resolutions are published in various education and health journals.

In recent years the Joint Committee has concerned itself with recommendations and resolutions on such topics as release of children from schools during the school day, cooperative efforts in planning health service programs, programs for defending against disasters, the need for public education in the area of fluoridation of public water supplies, the need for periodic medical examination of school children by the family physician, and the utilization of the dental profession in dental health programs. These are just a few of the statements and resolutions which have been concerned with school health services. Many more have been passed in the areas of health instruction, physical education and athletics, research and experimentation, and environmental needs.[29] Through the persistent work and efforts of its members and through the leadership of its officers, the Joint Committee on Health Problems in Education has become one of the most respected and influential groups in school health.

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[25] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Health Education.* Washington, D. C.: National Education Association, 1924. 164 pp.

[26] ——————————. *School Health Services.* Washington, D. C. and Chicago: the Associations, 1953. 486 pp.

[27] ——————————. *Healthful School Living.* Washington, D. C. and Chicago: the Associations, 1957. 323 pp.

* In the development of its major publications, the Joint Committee utilized the assistance of selected editors. The editors of the various editions of the publications were: *Health Education,* 1st edition (1924), Thomas D. Wood, M.D.; 2nd edition (1930), Thomas D. Wood, M.D.; 3rd edition (1941), Anne Whitney; 4th edition (1948), Charles C. Wilson, M.D.; 5th edition (1961), Bernice R. Moss, Ed.D., Warren H. Southworth, Dr. P.H., and John L. Reichert, M.D.; *Healthful School Living,* 1st edition (1957), Charles C. Wilson, M.D.; *School Health Services,* 1st and 2nd editions (1953 and 1964), Charles C. Wilson, M.D.

[28] The Joint Committee has published 52 separate books and pamphlets since 1911.

American Association for Health, Physical Education, and Recreation

In 1937, through an amalgamation of the Department of School Health of the NEA with the American Physical Education Association, the American Association for Health, Physical Education, and Recreation was formed. The new Association became a department of the NEA and established an office in Washington with a full-time secretary.

Organizationally, the Association elects vice-presidents each year in the specialized fields of health education, physical education, recreation, men's athletics, women's sports, and safety education. Various sections and committees exist within each of the divisions.

As one of the largest departments of the NEA, the AAHPE & R, as it is known, has stimulated other departments of the National Education Association to consider school health activities as a part of their more specialized work. It has likewise assumed leadership in cooperation with other professional and nonprofessional groups.

The Association publishes the *Journal of Health, Physical Education, and Recreation,* which regularly includes articles relating to school health education, and the *Research Quarterly,* which is devoted to current investigation in the fields of the Association's interests. Talks, discussions, and symposia on various aspects of school health work are included on the program of its national conventions, as well as in meetings of its district, state, and local affiliates. Conferences on various specialized aspects of school and college health are a continuing function of the American Association for Health, Physical Education, and Recreation. The Association is also an active member of the International Council for Health, Physical Education, and Recreation, founded in the summer of 1959. The document, *School Health Practices in the United*

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[29] A complete listing of the resolutions and recommendations of the Joint Committee may be found in the appendix of the following dissertation: Nolte, Ann E. "An Historical Study of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association." Unpublished doctoral dissertation. Columbus: The Ohio State University, 1963.

States,[30] published in 1961, was one phase of an international survey of school health programs and activities conducted by the Council in cooperation with the World Confederation of Organizations of the Teaching Profession (WCOTP).

American Public Health Association

Early concern for the health of school children was shown by the American Public Health Association. This organization was founded on September 12, 1872, and at a meeting for the formal presentation of papers in the following year, Andrew D. White "opened up the topic of 'Sanitary Science in Its Relation to Public Instruction'."[31] Over the years, many sections of the Association interested in school health have arranged to meet periodically for the exchange of ideas on school health programs and procedures.

The School Health Section, founded in 1942, functions by means of committees organized to study and report on particular problems. It holds numerous meetings in conjunction with the annual convention of the Association, some of which are planned jointly with other sections. Many of the papers presented at these sessions, as well as committee reports, are published in the *American Journal of Public Health.*

American School Health Association

On October 17, 1927, the American Association of School Physicians was founded, largely through the efforts of William A. Howe. It was created to meet an urgent need "to stimulate greater interest among physicians, by their mobilization, in health work in schools; to raise the standard of the service and to provide more competent leadership for the work."[32] Seven years later the organization opened its membership to school health workers of various professional backgrounds and become the American School Health Association.

In 1931 the organization began publication of the *School Physicians Bulletin.* This later became the *Journal of School Health,* a publication devoted to disseminating information on school health activities and problems.

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[30] American Association for Health, Physical Education, and Recreation. *School Health Practices in the United States.* Washington, D. C.: the Association, a department of the National Education Association, 1961. 238 pp.

[31] American Journal of Public Health. "The American Public Health Association." *American Journal of Public Health* 37: 1467-76; November 1947.

[32] School Physicians Bulletin. "Fifth Anniversary of the American Association of School Physicians." *School Physicians Bulletin* 2: 8; September 1932.

The Association meets annually with the American Public Health Association. In addition to its own sessions, it cosponsors meetings with the School Health Section and other sections of the American Public Health Association. Numerous committees study current problems and prepare reports suggesting solutions.

American Medical Association

The American Medical Association, founded in 1847, has long cooperated in many public and school health undertakings. In addition to its leadership role with the Joint Committee on Health Problems in Education, the organization has consistently promoted the betterment of health for all people. Its popular periodical *Hygeia* and its later counterpart *Today's Health*, along with the *Journal of the American Medical Association*, have provided scientific information through the years to professional people and the general public.

Under the able leadership of W. W. Bauer, M.D., its director for 30 years (1932-1962), the Bureau of Health Education (now Department of Health Education) led in many new approaches to health education of the public. Through this Bureau, the Association fostered and has maintained an interprofessional approach to the consideration of problems related to school health services. As a part of their responsibilities, members of the staff are active on numerous committees of a variety of professional organizations and participate, upon invitation, in workshops and conferences.

A nationwide survey to determine the nature and extent of physician participation in school health services was conducted in 1950.[33] This report suggested that medical societies appoint a school health committee to acquaint physicians with school problems and to provide an orderly way of coordinating the efforts of those concerned with the health of school-age children. Since 1950 biennial surveys of medical society school health activities have been conducted through state medical associations. In January 1961, the Department of Health Education began publication of the monthly, *Health Education Service for Schools and Colleges*.[34] This publication is intended to provide teachers with authentic health news in concise form and to help them distinguish "between fact and fallacy, science and pseudo-science."

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[33] American Medical Association. *Physician Participation in School Health Services.* Chicago: the Association, 1950. 62 pp.

[34] American Medical Association, Department of Health Education. *Health Education Service for Schools and Colleges* 1: 1-4; January 1961.

The biennial Conferences on Physicians and Schools, sponsored by the Department of Health Education, began in 1947. These meetings have been of significant value in defining the role of the physician in the school health program and in clarifying problems arising in the conduct of school health services. The national gatherings, attended by representatives of state education departments, state health departments, state medical associations, and national health agencies, have resulted in a series of important published reports.[35]

A series of preconvention sessions on school health has preceded each annual meeting of the American Medical Association. These sessions, sponsored jointly by the American Medical Association and American School Health Association, have dealt with numerous topics of current interest.

Physical fitness has been a concern of the AMA. A representative of the Association has worked with various national fitness committees, and consultants in fitness have been members of the staff of the Department of Health Education.

A Committee on Injuries in Sports, organized by the AMA in 1954, became the Committee on Medical Aspects of Sports five years later, a name more in keeping with its broad interests. The Committee has sponsored conferences in the area of its interests. It has alerted physicians throughout the country to health problems associated with sports participation and informed them of ways in which they can work with physical education teachers, coaches, recreation leaders, and others in reducing accidents in sports and in assuring proper care for those who become injured.

The Department of Health Education has cooperated with other departments of the American Medical Association in bringing information related to advances in medicine and nutrition to persons concerned with school health programs. Worthy of special mention is the cooperation with the Department of Exhibits in building education exhibits, such as "Health Appraisal of School Children" and "Seven Paths to Fitness."

American Academy of Pediatrics

A Committee on School Health of the American Academy of Pediatrics has been in continuous and active existence since 1931, making it the oldest committee of the Academy. The Committee has made and continues to make important contributions in bridging the gap between education and health. Its particular area of influence lies in bringing physicians, both in practice and in public health, into more active and effective membership on the school health team. Among current publications of the Committee are *School Health Policies,* originally published in 1954[36] and re-edited in 1959,[37] and *Competitive Athletics.*[38]

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[35] American Medical Association. *Reports of Conferences on Physicians and Schools.* Chicago: the Association.

An important study of Health Services and Pediatric Education was spearheaded by the Academy and conducted with cooperation of the U.S. Public Health Service and the Children's Bureau.[39] The report, published in 1949, included valuable information related to school health services.

Many additional professional organizations have greatly assisted in the promotion of school health services through the years. Among these groups have been the American Dental Association (1859), the American Academy of Medicine (1885), the American Nurses Association (1896), the American College Health Association (1920), and the Society of State Directors of Health, Physical Education, and Recreation (1926).

Federal Agencies

The United States Office of Education, Public Health Service, and Children's Bureau, as divisions of the U.S. Department of Health, Education, and Welfare, have all displayed an active interest in school health services. This interest, however, has been focused almost exclusively on the gathering and dissemination of information that described and interpreted existing programs operating in the various states. This situation has reflected the concept that both education and public health are, according to the Constitution, responsibilities of the respective states.

The United States Public Health Service, with a history dating back to 1798, and the Children's Bureau, created in 1912, have been strong supporters of school health work during the last half-century. The Office of Education, founded in 1867, began an even earlier interest. The very first report of the United States Commissioner of Education concerned itself generally with the status, progress, and problems of school "hygiene."

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[36] American Academy of Pediatrics, Report of the Committee on School Health. "School Health Policies." *Pediatrics* 13: 74-82; January 1954.

[37] ————————. "School Health Policies." *Pediatrics* 24: 672-82; October 1959.

[38] ————————. "Competitive Athletics: A Statement of Policy." *Pediatrics* 18: 672-76; October 1956.

[39] American Academy of Pediatrics. *Child Health Services and Pediatric Education.* New York: Commonwealth Fund, 1949. 270 pp.

The Commissioner's report for the school year 1893-94 contained the first compilation of "all state and territorial laws affecting health and safety of school children and those in 17 representative cities together with a proposed schedule for sanitary investigation of school houses."[40] The report of 1897-98 had a section devoted to Medical Inspection of Schools.[41] More recently, the Office of Education conducted studies of school health services in city schools in 1922, 1930, 1940, 1950, and 1960.

Official recognition of health education in the Office of Education began in 1911 with the appointment of Fletcher B. Dresslar as the first Specialist in School Hygiene and Sanitation. In 1923 James F. Rogers was appointed Chief of the Division of Hygiene and Physical Education, superseding a part-time director, Willard Small. Rogers' tenure in office of nearly 20 years was marked by his scholarly contributions to literature in the field and his tireless and persistent devotion to the betterment of child health.

Private Agencies

For several decades following the turn of the century, a vast array of national organizations supported by private funds sprang up, each devoted to a particular health problem. Such specialization greatly accelerated progress in the health sciences as each interest was exploited, but it sometimes complicated local situations by distorting the emphasis placed on various parts of the program. Progress took place according to the strength of the pressures being exerted by any one group and the amounts of assistance which were supplied.

Pioneer groups making notable contributions in school health services began in 1904 with the formation of the National Child Labor Committee and the founding of the National Tuberculosis Association. Other organizations followed, including the American Mental Health Association (1909), the National Society for the Study and Correction of Speech Disorders (1912), the American Social Hygiene Association, now known as the American Social Health Association (1914), the National Society for the Prevention of Blindness (1915), the American Society for the Hard of Hearing (1929), and many others. Their names suggest their special interest and indicate relationships with some aspect of school health services.

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[40] Clark, Hannah. "Sanitary Legislation Affecting Schools." *Report of the U.S. Commissioner of Education, 1893-94.* U.S. Department of the Interior, Bureau of Education, Vol. II. Washington, D. C.: Government Printing Office, 1895. pp. 1301-04.

[41] *Ibid.*, pp. 1489-1511.

A National Child Health Council was formed in 1920 in an effort to coordinate the rapidly developing programs and to prevent duplication and overlapping of services. This organization was disbanded when the National Health Council[42] was created a year later to render the same function on a broader scale. The National Conference for Cooperation in Health Education organized in 1938 assumed a similar coordinating role in school health work until it was disbanded in 1960.

In 1923 the American Child Health Association came into existence. It was formed by a merger of the previously prominent American Child Hygiene Association (1909) and the Child Health Organization of America (1918).[43] Although the Child Health Association was disbanded 12 years later, during its operation it contributed a volume and quality of professional service to the schools that was outstanding. Its investigations, reports, conferences, publications, researches, and advisory services were significant in providing stimulus and guidance for school health programs.

Over a period of many years school health personnel and representatives of voluntary health organizations have been concerned with devising ways to promote closer cooperation between the two groups. A statement on "Voluntary Health Agencies and the Schools,"[44] approved in 1948 by the Board of Directors of the American Association for Health, Physical Education, and Recreation, involved cooperative efforts by that Association, the School Health Section of the American Public Health Association, and representatives of voluntary associations. The report dealt with relationships, teaching aids, and audiovisual materials. In 1955 a committee of the Health Education Division of the American Association for Health, Physical Education, and Recreation prepared a statement on "How Schools and Voluntary Agencies Can Work Together To Improve School Health Programs."[45] The Committee "worked cooperatively with educators and representatives of the voluntary health agencies" in formulating suggested principles to guide cooperative work.

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[42] National Health Council. *The National Health Council.* New York: the Council, 1939. 35 pp.

[43] Van Ingen, Philip. *The Story of the American Child Health Association.* New York: American Child Health Association, 1938. 44 pp.

[44] American Association for Health, Physical Education, and Recreation. "Voluntary Health Agencies and the Schools." *Journal of Health, Physical Education, and Recreation* 20: 73-76, 126; February 1949.

[45] American Association for Health, Physical Education, and Recreation. "How Schools and Voluntary Agencies Can Work Together To Improve School Health Programs." *Journal of Health, Physical Education, and Recreation* 26: 35-36; October 1955.

Role of Colleges and Universities

The contributions of colleges and universities in the preparation of personnel for work in the various phases of school health programs have been fundamental to progress. They have consistently provided valuable and influential leadership throughout the years through sponsored and supervised surveys, demonstrations, and research.

Harvard, Amherst, and Williams Colleges began programs of physiology and health instruction as early as 1818, 1823, and 1851, respectively; and the women's colleges of Mount Holyoke, Smith, Wellesley, and Vassar established similar programs shortly thereafter.[46] School physicians, often employed as directors of gymnasia, were first noted at Amherst College in 1860, followed by Harvard College in 1879. Yale, Johns Hopkins, Bowdoin, Cornell, Oberlin, Mount Holyoke, Vassar, Wellesley, Smith, and Bryn Mawr Colleges and the Women's College of Baltimore all had school physicians before 1900.[47]

The Child Study Movement, originating in higher education in the 1890's, did much to foster interest in the health of school-age children. G. Stanley Hall, Felix Adler, William H. Burnham, John Dewey, and others provided stimulation for this idea. The *Pedagogical Seminary,** an educational journal, helped in the propagation of the movement through the dissemination of investigative information concerning the mental and physical characteristics of the child.

It was not until the twentieth century, however, that child study programs became widespread, built upon productive research and established around broad and continuing lines. In 1917 the Iowa Child Welfare Research Station was authorized by the state as an integral part of the State University of Iowa, with Bird T. Baldwin as its first director.[48] Other laboratory and child development research centers soon followed, promoted by the interest and support of the Laura Spelman Rockefeller Fund. These facilities assembled and evaluated existing data, conducted controlled experiments, and developed improved tools for measuring the growth and development of children.

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[46] Rogers, James Frederick. *Instruction in Hygiene in Institutions of Higher Education.* U.S. Department of the Interior, Office of Education, Bulletin #7. Washington, D. C.: Government Printing Office, 1936. pp. 2-4.

[47] Leonard, Fred E. "Physical Training in the Colleges." *Journal of the Proceedings and Addresses.* Chicago: National Education Association, 1897. pp. 909-15.

[48] Iowa Child Welfare Research Station. *Pioneering in Child Welfare: A History of the Iowa Child Welfare Research Station 1917-1933.* Iowa City: State University of Iowa, 1933. 80 pp.

* A journal published at Clark University, 1891-1918.

During the last few decades, institutions preparing teachers have provided courses designed to give their students an understanding of the scope and content of school health programs and of their roles in such programs. Courses in personal and community health have commonly been supplemented by courses in school health. Additional courses in such areas as nutrition, safety, first aid, and mental health have been developed. Many colleges and universities now offer a minor or a major undergraduate program in health education as well as advanced graduate study.

Support and Cooperation of Lay Groups

The influence of civic groups, with a concern for children stemming from parental interest, has been a powerful twentieth century force in the development of school health programs. Outstanding among these in its support and cooperation with community health service for the school child is the National Congress of Parents and Teachers. Beginning in 1925 and continuing for many years, this association carried on the "Summer Roundup," intended to "promote among parents a realization of their responsibility for sending children to school prepared through adequate medical attention."[19] In recent years the association has advocated a program of continuing health supervision for children. It combines concern for a program of health examinations and follow-up for the correction of remediable defects with concern for the education of parents in the importance of medical and dental services for their children.

Numerous other national, state, and local committees and groups have been active in dealing with health problems of children and youth. These organizations have materially assisted in the promotion and coordination of school health activities as a part of the broader social framework.

LANDMARKS IN LITERATURE AND RESEARCH

Literature relating to the school health program has been prolific during the past four decades. Through constantly broadening references—books, pamphlets, periodicals, proceedings, reports, government publications, and other sources—all phases of school health work today receive extensive coverage. Research in the field, though less productive by comparison, has increased and has produced data that have an important bearing on many school health service procedures.

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[19] National Education Association and American Medical Association, Joint Committee on Health Problems in Education (Thomas D. Wood, Chairman). *Home and School Cooperation for the Health of School Children.* Washington, D. C.: National Education Association, 1937. p. 11.

Certain publications and research studies may be considered landmarks or guideposts along the road of progress. A selected few of these will be briefly described.

Important Literature

The earliest known bibliography relating to school health work was compiled by William H. Burnham and published in 1898.[50] This partially annotated aggregate of books, articles, journals, and reports contained reference to such school health services as medical examinations, vision testing, height and weight measurement, disease problems, and health defects. Affleck built upon this bibliography some years later. Beginning in 1910 and continuing for almost two decades, his compilations were carried in the March, June, and November issues of the *American Physical Education Review*.[51]

A review of health practices and problems in educational institutions was published in 1910 under the title *Health and Education*.[52] Representing a synthesis of the best opinion of the day, the book was actually Part I of the Ninth Yearbook of the National Society for the Study of Education and a lineal forerunner of the Joint Committee's *Health Education*. Principal author of this book which profoundly influenced the field was Thomas D. Wood.

An initial effort to establish guides for school health work was made by the Joint Committee on Health Problems in Education of the NEA and the AMA. It resulted in the pamphlet, *Health Essentials for Rural School Children*,[53] and was published in 1916. Although directed at rural school education, it was considered of great value since at that time more than half of the children in the United States were being educated in rural schools. The threefold purpose of the pamphlet was to state the current health conditions of rural school children, to propose and recommend practical measures considered necessary for the health care of children in country schools, and to report outstanding efforts which were then being made to provide health care for rural school children.

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[50] Burnham, William H. "Bibliography of School Hygiene." *Journal of the Proceedings and Addresses*. Chicago: National Education Association, 1898. pp. 505-23.

[51] Affleck, G. B. "Bibliography of Physical Training." *American Physical Education Review* 15: 193-209; March 1910.

[52] National Society for the Study of Education. *Health and Education*. Ninth Yearbook, Part I. Chicago: University of Chicago Press, 1910. 110 pp.

[53] National Education Association and American Medical Association, Joint Committee on Health Problems in Education (Thomas D. Wood, Chairman). *Health Essentials for Rural School Children*. Chicago: American Medical Association, 1916. 24 pp.

A further effort to establish guides for school health work resulted in the 1923 report *Health for School Children.*[54] This document, published by the United States Office of Education, was the work of an Advisory Committee on Health Education of the National Child Health Council under the chairmanship of L. Emmett Holt, M.D.

During the 1920's the Joint Committee of the NEA-AMA issued numerous important reports dealing with school health services. Among the most significant were *Health Improvement in Rural Schools*[55] and *Health Service in City Schools of the United States,*[56] in 1922; the first edition of *Health Education,*[57] in 1924; *Conserving the Sight of School Children,*[58] in 1925; and *The Deafened School Child,*[59] in 1928.

Of the series of White House Conferences on Children and Youth, held once each decade since 1909, the third meeting was one of the most productive. From this gathering in 1930 came numerous reports relating to child health.[60] It considered elements of home and school cooperation; identified problems of rural, Negro, Indian, private, and parochial schools; and outlined recommended procedures of school medical, dental, nursing, and nutrition services. Because of the auspices under which the conference was called and the widespread representation by leading individuals and groups, the report exerted a strong influence on school health programs and served as a guide to their expansion and improvement.

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[54] National Child Health Council, Report of the Advisory Committee on Health Education. *Health For School Children.* Federal Security Agency, U.S. Office of Education Study #1. Washington, D. C.: Government Printing Office, 1923. 75 pp.

[55] National Education Association and American Medical Association, Joint Committee on Health Problems in Education (Thomas D. Wood, Chairman). *Health Improvement in Rural Schools.* Chicago: American Medical Association, 1922. 52 pp.

[56] ——————. *Health Service in City Schools of the United States.* Washington, D. C.: National Education Association, 1922. 40 pp.

[57] ——————. *Health Education*—A Program for Public Schools and Teacher Training Institutions. Washington, D. C.: National Education Association, 1924. 164 pp.

[58] ——————. *Conserving the Sight of School Children.* New York: National Society for the Prevention of Blindness, 1925. 46 pp.

[59] ——————. *The Deafened School Child.* New York: Communal Printing Company, 1928. 38 pp.

[60] White House Conference on Child Health and Protection. *The School Health Program.* Report of the Committee on the School Child. New York: Century Company, 1932. 400 pp.

The booklet, *Suggested School Health Policies*, originally prepared by a Committee of the Child Hygiene Section (now Maternal and Child Health) of the American Public Health Association, has influenced school health programs in many parts of the United States over a period of almost a quarter century. It has been used as a guide by state and local departments of education and of health in formulating policies suited to their particular situations. It has also been used to interpret school health programs to various professional groups.

Suggested School Health Policies has undergone several revisions and has been published in various forms, but each edition has been the product of deliberations by an *ad hoc* National Committee on School Health Policies composed of representatives of professional organizations and agencies concerned with education, medicine, and public health. The first edition (1940) was published in several periodicals[61] and in booklet form; so also was the second edition (1945-46).[62] The third (1956) and fourth editions (1964) were published in booklet form by the Joint Committee on Health Problems in Education of the NEA-AMA. Charles C. Wilson, M.D., was chairman of the Committees which developed the first three editions, and John L. Reichert, M.D., chairman of the Committee which prepared the fourth edition.

Groups of school administrators have long been concerned with the improvement of child health. This is attested by a review of the publications of the Department of Superintendence, founded in 1906 as a branch of the National Education Association, and other subsequent administratively oriented organizations. In 1942 the

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[61] National Committee on School Health Policies. "Suggested School Health Policies." *Hygeia* 18: 9, 10, 11; September, October, and November 1940.

———. "Suggested School Health Policies." *Journal of the American Medical Association* 114; April 27, 1940, and May 11, 1940.

———. "Suggested School Health Policies." *Journal of Health and Physical Education* 11: 5-6; May, June 1940.

[62] National Committee on School Health Policies. "Suggested School Health Policies." *Journal of Health and Physical Education* 17: 10-13, 63-66, 144-46; January 1946.

———. "Suggested School Health Policies." *Public Health Nursing* 37: 552-59, 619-27; November 1945. 38: 24-30; January 1946.

———. "Suggested School Health Policies." *National Association of Secondary-School Principals Bulletin* 29: 3-36; December 1945.

———. "Suggested School Health Policies." *School Life* 28: 12-16, January; 9-25, March; 22, June 1946.

American Association of School Administrators, which was an outgrowth of the Department, published a notable book on school health. This, the twentieth yearbook of the organization, was entitled *Health in Schools.*[63]

The popularity of the book created a demand for numerous printings and nine years later a revised edition. Because of its emphasis on administrative problems, the report has had a profound influence on superintendents, principals, supervisors, and directors of school health programs.

Significant Research in the Field

Much of the early research and experimentation in school health services was confined to the development of measures to improve the health status of "defective" children. Considerable attention was devoted to procedures which emphasized the alleviation of problems of dental health, nutrition, communicable disease, and specific defects. Lewis Terman, for example, proposed the establishment of school dental clinics, and William R. P. Emerson similarly endorsed nutrition clinics.[64]

The demonstration approach of illustrating experimentally the effectiveness of a well-organized and coordinated school health program became popular around World War I and continued in ensuing years. Probably the earliest demonstration of this nature was that launched in 1914 in Locust Point, Maryland.[65] Three years later the Framingham, Massachusetts, demonstration was started.[66] Mabel C. Bragg provided leadership for yet another demonstration which began in 1919 in Newton, Massachusetts.[67]

In the 1920's the Commonwealth Fund financed and organized four demonstrations in widespread sections of the country, each covering a period of five years. Selected as research centers were

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[63] American Association of School Administrators. *Health in Schools.* Twentieth Yearbook. Washington, D. C.: the Association, a department of the National Education Association, February 1942. 544 pp. (Revised edition, 1951, 477 pp.)

[64] Report of the White House Conference on Child Welfare. *Standards of Child Welfare.* U.S. Department of Labor, Children's Bureau, Publication No. 60. Washington, D. C.: Government Printing Office, 1919. pp. 235-38.

[65] Jean, Sally Lucas. "Health Education—Some Factors in Its Development." *News Letter* (School of Public Health, University of Michigan) 5: 1-4; June 1946.

[66] McGiffert, Sarah. "Outstanding Steps in the Development of the Health Education Movement." *Health Education.* Fifth Yearbook. Chicago: Chicago Principal's Club, June 1930. p. 3.

[67] Health Bulletin for Teachers. "Mabel Caroline Bragg—Pioneer in Health Education." *Health Bulletin for Teachers* 25: 17-20; November 1954.

Fargo, North Dakota (1923-27); Rutherford County, Tennessee (1924-28); Clarke County, Athens, Georgia (1924-28); and Marion County, Salem, Oregon (1925-29). Other studies were conducted in Mansfield and Richland County, Ohio, and in Malden, Massachusetts.[68] All these projects devoted considerable attention to various aspects of school health services.

The development and direction of practices in the field were influenced by several other significant studies made in the twenties by the American Child Health Association. *A Health Survey of 86 Cities*[69] and the School Health Study,[70] as an outgrowth of it, both analyzed school health services as one phase of the research. The results of the latter were published in a series of five monographs.

Research during the period from 1920 to 1940 expanded rapidly and built upon the studies conducted in earlier decades. The five-year series of studies undertaken in Cataraggus County, New York, provided important data on rural school practices.[71] The Joliet, Illinois, study reflected the values of health education procedures, including the periodic physical examination.[72] School health services also received major attention as a part of the National Survey of Secondary Education.[73]

In 1934 the American Child Health Association published the results of a two-year study that had been completed in the New York City schools. Entitled *Physical Defects—The Pathway to Correction,*[74] the research concerned itself with the construction and administration of tests for the identification of children with severe defects, the analysis of existing programs, and the recommendation of improved methods of detection and follow-up. Another research contribution of the Association during the period resulted in the development of the ACH Index (arm, chest, height), a device which was subsequently widely utilized by schools as a measure of growth and nutritional status.

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[68] Turner, Clair E. "Malden Studies on Health Education and Growth." *American Journal of Public Health* 18: 1217-30; October 1928.

[69] American Child Health Association, Research Division. *A Health Survey of 86 Cities.* New York: the Association, 1925. 614 pp.

[70] American Child Health Association. *An Evaluation of School Health Procedures.* School Health Research Monograph No. V. New York: the Association, 1933. 127 pp.

[71] *Evaluation of a Rural School Health Education Project.* New York: Milbank Memorial Fund, 1939. 55 pp.

[72] Hardy, Martha C., and Hoefer, Carolyn H. *Healthy Growth.* Chicago: University of Chicago Press, 1936. 360 pp.

[73] Brammell, P. Roy. *Health Work and Physical Education.* National Survey of Secondary Education, Monograph No. 28. U.S. Department of the Interior, Office of Education, Bulletin No. 17. Washington, D. C.: Government Printing Office, 1933. 98 pp.

[74] American Child Health Association, Research Division. *Physical Defects—The Pathway to Correction.* New York: the Association, 1934. 171 pp.

The W. K. Kellogg Foundation instigated a series of studies aimed at the cooperation and coordination of school and community health programs in the early 1940's.[75] Later termed the School-Community Health Project, the research did much to develop more functional health services for school-age children.

New York City was the site for two other significant studies that provided impetus for the further development of school health services. Most important was the Astoria Study conducted from 1936 to 1940. Supported by grants from numerous private and official sources, the report appeared in 1942 under the title *Solving School Health Problems*.[76] The report of the second project, the New York City Study, appeared seven years later.[77] Another metropolitan city study that involved school health services was that conducted from 1954 to 1959 in the Los Angeles area.[78] Although much of the completed research was local in nature, the results strongly influenced programs throughout the entire country.

What the future will bring cannot be accurately predicted. As changing concepts and conditions have modified previous programs, so will they influence those in the decades ahead. As new and more effective procedures for protecting and improving health evolve, they will be reflected in alterations in school health services. The ultimate goal of optimal health for all will persist, however, and continue to challenge workers and leaders.

FOR FURTHER READING

CORNELL, WALTER S. *Health and Medical Inspection of School Children.* Philadelphia: F. A. Davis Company, 1912. 614 pp.

DRESSLAR, FLETCHER B. *School Hygiene.* New York: Macmillan Co., 1913. 369 pp.

GULICK, LUTHER S., AND AYRES, LEONARD P. *Medical Inspection of Schools.* New York: Charities Publication Committee, Russell Sage Foundation, 1908.

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[75] Kellogg (W. K.) Foundation. *An Experience in Health Education.* Battle Creek, Mich.: the Foundation, 1950. 175 pp.

[76] Nyswander, Dorothy B. *Solving School Health Problems.* The Astoria Demonstration Study. New York: Commonwealth Fund, 1942. 377 pp.

[77] *Evaluative Study of Health Education in the Public Schools of New York.* Brooklyn: Board of Education of New York City, 1949. 236 pp.

[78] *School Health Education Evaluative Study—Los Angeles Area 1954-1959.* Berkeley: University of California Press, 1960. 128 pp.

HOAG, ERNEST B., AND TERMAN, LEWIS M. *Health Work in the School.* Boston: Houghton Mifflin Co., 1914. 321 pp.

JEAN, SALLY LUCAS. "The Past as a Springboard to the Future." *Journal of School Health* 19: 3-10; January 1949.

KEENE, CHARLES H. *The Physical Welfare of the School Child.* Boston. Houghton Mifflin Co., 1929. 505 pp.

KERR, JAMES. *The Fundamentals of School Health.* New York: Macmillan Co., 1927. 859 pp.

KILANDER, H. F. *Health Services in City Schools.* Federal Security Agency, U.S. Office of Education, Bulletin No. 20. Washington, D.C.: Government Printing Office, 1952. 68 pp.

LINDSAY, EDITH. "Origins and Development of the School Health Movement in the United States." Unpublished doctoral dissertation. Palo Alto, Calif.: Stanford University, October 1943. 593 pp.

MEANS, RICHARD K. *A History of Health Education in the United States.* Philadelphia: Lea & Febiger, 1962. 412 pp.

MITCHELL, HAROLD H. "Forty Years of School Medical Inspection." *Journal of Pediatrics* 7: 1-8; November 1935.

NOLTE, ANN E. "An Historical Study of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association." Unpublished doctoral dissertation. Columbus: The Ohio State University, 1963.

RAPEER, LOUIS W., editor. *Educational Hygiene.* New York: Charles Scribner's Sons, 1915. 650 pp.

ROGERS, JAMES FREDERICK. *Progress and Prospect in School Health Work.* U.S. Department of the Interior, Bureau of Education, School Health Studies No. 10. Washington, D. C.: Government Printing Office, 1925. 54 pp.

TERMAN, LEWIS M. *The Hygiene of the School Child.* Boston: Houghton Mifflin Co., 1914. 417 pp.

WILSON, CHARLES C., editor. *School Health Services.* Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association. Washington, D.C. and Chicago: the Associations, 1953. 486 pp.

WOOD, THOMAS D., AND ROWELL, HUGH GRANT. *Health Supervision and Medical Inspection of Schools.* Philadelphia: W. B. Saunders Co., 1927. 637 pp.

Appendix

PUBLICATIONS OF THE JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION OF THE NATIONAL EDUCATION ASSOCIATION AND THE AMERICAN MEDICAL ASSOCIATION

Current*

Whom Shall I Consult About My Eyes? 1947
"Physical Growth Record (for Boys and Girls)" 1950
Sex Education Series 1955
  Parents' Privilege (title changed in 1962 to *Parents' Responsibility*)
  A Story About You
  Finding Yourself
  Learning About Love (title changed in 1960 to *Preparation for Marriage* and in 1962 to *Approaching Adulthood*)
  Facts Aren't Enough
Sleep and Children 1956
Healthful School Living 1957
Answers to Health Questions in Physical Education (rev. ed. of *The Physical Educator Asks About Health*) 1959
As Others See Us (rev. ed. of *Health Conditions Affecting the Personality of School Youth*) 1959
Health Examination of School Personnel 1960
Health Appraisal of School Children 1961
Health Education (5th ed.) 1961
Health Aspects of the School Lunch Program 1962
School Health Services (2nd ed.) 1964
Suggested School Health Policies (4th ed.) 1964

Out of Print**

Minimum Health Requirements for Rural Schools 1914
Rural Schoolhouses and Grounds 1914
Health Essentials for Rural School Children—2nd ed., 1921 1916
"Health Charts"—2nd ed., 1920; 3rd ed., 1928 1917
Health Charts Booklet 1917

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* Current publications may be obtained from either the National Education Association, 1201 Sixteenth Street, N. W., Washington, D.C., 20036, or the American Medical Association, 535 N. Dearborn Street, Chicago, Illinois, 60610.

** Although these materials are out of print, they are often available in university and professional libraries. Information regarding these publications may be obtained from the National Education Association or the American Medical Association.

Daylight in the Schoolroom	1921
The Teacher's Part in Social Hygiene	1921
Health Improvement in Rural Schools	1922
Health Service in City Schools of the United States	1922
Health Problems in Education	1923
Health Education—2nd ed., 1930; 3rd ed., 1941; 4th ed., 1948 (5th ed., 1961, in print)	1924
Conserving the Sight of School Children—rev. ed., 1928; rev. ed., 1935	1925
Ventilation of School Buildings	1925
The Deafened School Child	1928
Health Inspection of School Children	1933
A Preliminary Study of Group Opinions Relating to Certain School Health Policies	1935
Home and School Cooperation for the Health of School Children	1937
Open Air Classrooms, Extending Their Benefits to All	1937
Mouth Health of School Children	1938
Mental Hygiene in the Classroom	1940
Suggested School Health Policies—2nd rev. ed., 1945; 3rd rev. ed., 1956 (4th rev. ed., 1964, in print)	1940
"Inherent Responsibilities of the School Health Education Program" (mimeographed)	1941
"The Location, Construction, Equipment, and Operation of the School Plant in Relation to Health" (mimeographed)	1941
The Nurse in the School—2nd rev. ed., 1955	1941
Sanitary Requirements for School Lunches (mimeographed)	1941
"Practical Procedures for Improving Health Guidance and Health Education" (mimeographed)	1942
"Health Rooms for Schools" (mimeographed)	1943
"Schedule Fatigue in School Children" (mimeographed)	1943
"The Conservation of Hearing in School Children" (mimeographed)	1945
"Health Appraisal Procedures During Shortages of School Physicians or Nurses" (mimeographed)	1945
"Health Implications of the Physical Education Program" (mimeographed)	1945
"Statement on the Use of Tampons" (mimeographed)	1946
"Individual Height Weight Record Card and Graph"	1947
"A Nutritional Program for Schools" (mimeographed)	1947
"Statement on Ultraviolet Disinfecting Lamps" (mimeographed)	1947
"Suggestions for the Teacher's Use of the Individual Height-Weight Record"	1947
Health Appraisal of School Children—2nd rev. ed., 1957 (3rd rev. ed., 1961, in print)	1948
The Physical Educator Asks About Health	1951
Health Conditions Affecting the Personality of School Youth	1952
Health Aspects of the School Lunch Program (2nd rev. ed., 1962, in print)	1956

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